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REPORT OF THE COMMISSIONERS

ON

INLAND FISHERIES AND GAME

FOR THE

YEAR ENDING DECEMBER 31, 1888.

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Commonwealth of Massachusetts.

To His Excellency the Governor and Honorable Council.

The Commissioners on Inland Fisheries and Game respectfully present their Twenty-third Annual Report.

Fishways.

The fishways are all in good condition, except the one at Holyoke. A new and expensive one has been built during the past season at Sherman's dam, Middleborough. It is of the same pattern as the one so successfully in operation at East Taunton Iron Works, and it is hoped that it will settle the controversy in regard to the passage of fish over this dam. Mr. Sherman deserves credit for having built the best fishway of its size in the State. Probably no change will be required, unless it be some slight arrangement at its mouth.

Record of Fish seen in the Lawrence Fishway in the Year 1888.

The river was very high all through the month of April and the greater part of May. Weather cold and wet; everything very backward. Saturday, May 26, saw the first fish, — a lamprey.

Only a very few lampers, alewives and suckers in the fishway until June 5. Flashboards were set on the south end of the dam in the forenoon of this day, bringing the water down to the end of the fishway, and in the afternoon there was a very large run of alewives.

June 6. Lampers and alewives, run large; a few chubs and suckers.
7. Lampers and alewives, run large.
8. Lampers, run large; alewives, chubs and suckers, run moderate; one brook trout.
9. Lampers, run large; alewives, run small; a few chubs and suckers.
10. One salmon, 6 pounds; lampers, run large; alewives, chubs and suckers, run moderate.

June 11. Lampers, run large; chubs and suckers, run moderate; alewives, run small.
12. One salmon, 6 pounds; lampers, run moderate; suckers, run small; a few alewives.
13. Three salmon, 6 to 15 pounds; lampers and suckers, run moderate.
14. One salmon, 6 pounds; lampers, run moderate; a few suckers.
15. Three salmon, 6 to 15 pounds; lampers, run moderate.
16. Four salmon, 6 to 12 pounds; lampers, run moderate.
17. Lampers, run moderate; one large silver eel and a few small ones.
18. Lampers, run moderate.
19. Four salmon, 6 to 12 pounds; lampers, run moderate; a few alewives.
20. Five salmon, 6 to 15 pounds; lampers, run small; a few small silver eels.
21. Three salmon, 6 to 12 pounds; lampers, run small; a few alewives.
22. Lampers, run small; a few silver eels.
23. Three salmon, 6 to 15 pounds; lampers, run small; a few alewives.
24. Two salmon, 10 to 15 pounds; lampers, run small.
25. Seven salmon, 6 to 15 pounds; a few lampers and silver eels.
26. One salmon, 10 pounds; a few lampers, suckers and small silver eels.
27. Six salmon, 8 to 20 pounds. River has risen a foot since yesterday.
28. Ten salmon, 10 to 18 pounds; a few suckers and small silver eels.
29. Three salmon, 8 to 16 pounds; a few suckers and small silver eels.
30. One salmon, 12 pounds; a few suckers, chubs and small silver eels.

July 1. A few alewives, suckers, chubs and lampreys.
2. Two salmon, 6 to 12 pounds; a few suckers and silver eels.
3. A few suckers and silver eels.
4. Two salmon, 6 to 15 pounds; two black bass.
5. Three salmon, 6 to 15 pounds.
6. A few suckers and silver eels.
7. One salmon, 10 pounds.
8. One salmon, 8 pounds,
9. A few suckers and silver eels.
10. A few suckers and silver eels.
11. A few suckers and silver eels.
12. One salmon, 12 pounds; a few silver eels.
13. One salmon, 12 pounds; a few silver eels.
14. One salmon, 8 pounds; a few silver eels.
15. A few suckers and small silver eels.
16. Two salmon, 6 to 8 pounds.

July 17. A few suckers and small silver eels.
18. A few silver eels.
19. A few silver eels.
20. Two salmon, 12 to 14 pounds; a few suckers and small silver eels.
21. Two salmon, 12 pounds each; a few silver eels.
22. A few silver eels.
23. A few silver eels and suckers.
24. A few silver eels and suckers.
25. One salmon, 12 pounds; a few silver eels and suckers.
26, to and including August 12. Only a few suckers and small silver eels in fishway; water shut out of fishway a few days, on account of low water.
Aug. 13. One salmon, 6 pounds; a few suckers and silver eels.
14, to and including September 2. A few silver eels, with now and then a sucker.
Sept. 3. Two salmon, 6 to 8 pounds; a few silver eels and suckers.
4, to and including September 10. A few silver eels.
11. Two salmon, 6 to 8 pounds; suckers, run moderate; a few silver eels. The river has risen since yesterday.
12. Suckers, run moderate; a few silver eels.
13. Suckers and silver eels, run small.
14. Suckers and silver eels, run small.
15. Suckers and silver eels, run small.
16. One salmon, 6 pounds; a few suckers and silver eels.
17. A few suckers and silver eels.
18. A few suckers and silver eels.
19. Three salmon, 10 to 14 pounds; suckers, run large; a few silver eels. River rising.
20. Three salmon, 8 to 14 pounds; suckers, run large; a few silver eels. River higher.
21. One salmon, 6 pounds; suckers, run large; a few silver eels.
22, to and including October 1. River very high and muddy; only a very few suckers in fishway.
Oct. 2. Two salmon, 6 to 12 pounds; a very few suckers.

During the rest of the season, and up to this date (November 15), the river was unusually high; very few fish, only suckers, in the fishway. The run of suckers was quite large on the 7th, 8th and 9th of November, but on the 10th the river came up again, burying the lower part of fishway, as far as the turn, under water. River very muddy since; no fish running.

Respectfully submitted,

Thomas S. Holmes,
In charge of Lawrence Fishway.

Shad-hatching.

So far as we have been able to learn, this has been an off year in the catching of shad on the New England coast. The rivers and streams were unusually high in the spring, the water cold, and the run of shad and alewives from two to three weeks later than usual.

On the Merrimac there were seven hundred and twenty-one shad taken at North Andover, a decrease as compared with last year, mainly due to high water and unfavorable weather, which interfered with the fishing. On the lower part of the river Mr. Edwin F. Hunt reports a catch of two thousand shad and three hundred barrels of bait, at Newburyport. Attention is called to the statement made in last year's report, in regard to the fisheries on this part of the river.

To the Commissioners on Inland Fisheries.

Gentlemen: — We respectfully submit the following report, giving a full account of the work of hatching shad, at North Andover, for the season of 1888. The hatchery was opened June 11, and closed July 17.

Number of large shad taken,	291
of small shad taken,	430
of shad returned to river alive,	611
of shad given away,	110
of salmon taken,	51
of salmon returned to river alive,	51

One hundred and ten male and female fish were used for spawning. The amount of spawn taken was fully 1,145,000. Number of shad hatched and accounted for, 1,010,000. Of this number, 430,000 were delivered to the Fish Commissioners of New Hampshire, and turned into the river near the city of Manchester; 30,000 were delivered to E. G. Loomis of Bedford; 30,000 were delivered to Mr. Burnham of Essex; and 30,000 were turned into Taunton River, above the city of Taunton. The balance, 490,000, were turned into the Merrimac at North Andover.

The order of Mr. J. M. Towle of Westport was not filled, as Mr. Towle was not able to come for them at the time, on account of sickness, and it is not safe to send young fish by express.

The following table will show the number of large shad taken

each day, the proportion of males to females, the temperature of air and water at 7 o'clock P.M., the time of drawing the seine, and the number of fish taken at each sweep: —

	Number of Shad taken.	Males.	Females.	Temperature of Water at 7 P. M.	Temperature of Air at 7 P. M.	Time of drawing Seine, P. M.	Number of Fish per Sweep.
June 11, 1888,	2	–	2	72	66	9,	2
12,	21	18	3	72	60	7, 8, 9,	5, 7, 9
13,	11	7	4	71	58	8, 9,	2, 9
14,	12	9	3	70	60	7, 8, 9,	1, 3, 8
15,	10	8	2	68	62	8, 9,	3, 7
16,	7	6	1	71	70	8, 9,	6, 1
18,	10	7	3	75	62	7, 8, 9,	2, 6, 2
19,	7	4	3	75	64	7, 9,	3, 4
20,	6	4	2	74	62	7, 8, 9,	3, 0, 3
21,	–	–	–	74	60	8, 9,	–
22,	5	5	–	76	66	8, 9,	3, 2
23,	13	7	6	78	70	8, 9,	5, 8
25,	9	6	3	78	66	8, 9,	6, 3
26,	12	7	5	76	62	8, 9,	7, 5
27,	10	4	6	74	60	9, 10,	6, 4
28,	13	8	5	72	60	7, 8, 9,	4, 4, 5
29,	11	7	4	71	58	7, 8, 9,	3, 5, 3
30,	12	7	5	72	62	8, 9,	3, 9
July 2,	14	9	5	70	64	8, 9,	7, 7
3,	11	6	5	72	70	7, 9,	7, 4
5,	12	6	6	74	72	8, 9,	7, 5
6,	13	8	5	75	70	8, 9,	5, 8
7,	11	–	11	76	64	8, 9, 10,	2, 5, 4
9,	7	1	6	75	60	8, 9, 10,	0, 3, 4
10,	8	2	6	74	62	8, 9,	0, 8
11,	12	4	8	76	68	8, 10,	5, 7
12,	12	7	5	73	63	8, 9,	6, 6
13,	11	5	6	72	62	8, 9,	7, 4
14,	2	–	2	74	60	8, 10,	0, 2
16,	7	3	4	74	62	8, 9,	3, 4
17,	–	–	–	76	64	8, 10,	–

The run of shad fell much below my expectations this season. I am unable to fully account for it, yet not in any way discouraged at this sudden and unlooked for decrease in numbers, as there will be seasons when we may expect changes in the run of fish, not easily explained. The season was uncommonly cold and backward. During the month of May, the water was so high that no fishing could be done, and no shad were caught on the Merrimac in that month, — a thing unheard of in the history of fishing on the Merrimac. This large volume of cold, muddy water, all through the month of May, might have caused the fish to keep

out of the river, as shad are seldom caught in the Merrimac when the water is very muddy. It is possible this may account for the decrease in numbers, as compared with last year.

The run of salmon was large, — by far exceeding our expectations. The number caught in the shad nets was fifty-one in thirty-one nights, as compared with eleven in thirty-three nights in the season of 1887. In weight they varied from eight to thirty pounds; a large number of them would weigh eighteen and twenty pounds each. The restocking of the Merrimac with salmon is established beyond any question. The shad is a more difficult fish to manage, yet I am confident the work can be accomplished, and that artificial hatching is the true method of reaching the desired object.

On May 28, at your request, I went to Raynham, on the Taunton River, and spent ten days in the attempt to start the business of hatching shad there. The work was a failure, for the reason that no shad with spawn in a condition to hatch could be taken there. At Raynham the shad are caught as they are passing up the river, perhaps ten hours from the ocean, and not after they have been schooling about ten days in warm, fresh water. As you are well aware, no shad are in condition to spawn when they leave the ocean. They leave the ocean, where the temperature of the water is in the vicinity of 50°, and in ten hours pass into fresh water that stands at a temperature of 72°. With this sudden change the spawn matures rapidly, and in a few days is in a condition to be taken from the fish. The remedy for this condition of affairs at Raynham is to catch the fish about two miles farther up the river, near East Taunton, where they assemble by hundreds during the spawning season. A fishing-ground could be cleared a short distance below the dam, at a small expense, and where everything is seemingly favorable for the establishing of a large hatchery, such as would furnish all the fish wanted; and three times the amount of business can be done there that is being done on the Merrimac, for about the same amount of time and money, as an abundance of spawn can be taken there; and, to be successful, you must locate where a large amount of spawn can be secured.

Respectfully yours,

B. P. Chadwick.

Bradford, Sept. 1, 1888.

Shad-hatching on Taunton River.

An effort to hatch shad on the Taunton River this year was not successful. There was no lack of breeding fish in the river, but none of the fishermen seemed to know where they spawned. Mr. Williams felt confident that it was at

his place in Raynham. This proved to be incorrect; and the spawning place of shad in the river is now known to be between Raynham and East Taunton Iron Works, in a part of the river where no ground has been cleared for seining.

Mr. Williams thinks it best to pound them in a creek near his place until the spawn is ripe; but whether this will be more effective and less expensive than clearing a seining ground, is a matter to be determined by further investigation.

We append the following returns from the Messrs. Williams: —

Shad hatching was tried at Raynham the past season, under the direction of Mr. B. P. Chadwick; but, owing to the very unfavorable season, and not knowing just where and how to confine the fish until they were ready for spawning, the result was not as satisfactory as we should wish it to be. If it was thought advisable for us to attempt it another season, we should then recommend catching them in the early season, and confining them in a tributary of the river until the fish were ready for spawning.

Respectfully yours,

Geo. B. and E. Williams.

Dates.	Number of Shad taken.	Males.	Females.	Temperature of Water at 7 A. M.	Temperature of Air at 7 A. M.	Time of hauling Seine.	Number of Fish per Sweep.
						A. M.	
May 28, . .	91	50	41	63	64	4, 6, 8,	80, 6, 5
29, . .	22	12	10	64	66	5, 7, 10,	18, 2, 2
31, . .	9	4	5	66	68	8, 9,	5, 4
June 1, . .	10	6	4	68	64	4, 6,	6, 4
2, . .	8	4	4	67	66	5, 6,	4, 4
4, . .	12	8	4	69	69	4, 7,	7, 5
5, . .	20	12	8	68	70	6, 8,	18, 2
6, . .	16	10	6	69	72	7, 9,	10, 6
7, . .	21	11	10	73	74	4, 5, 6,	10, 6, 5
8, . .	18	10	8	74	74	5,	18
						P. M.	
11, . .	–	–	–	70	72	8,	–
						A. M.	
12, . .	5	–	5	74	75	4, 6,	1, 4
13, . .	114	60	54	72	70	4,	114
						A. M. P. M.	
14, . .	5	4	1	71	72	10, 8,	1, 3
	351	191	160	–	–		

Number of shad returned to river alive, . . . 370
of shad given away, ... 45

Carp.

There was an abundant supply of these fish for a large number of ponds, but very few applied for them. It is evident that the value and importance of this fish is not understood by the people of this State. There are so many places, worthless for any other purpose, where they could be grown with very little expense, that it seems singular that they are not more sought for. There is no way in which so much wholesome food can be produced at so little expense. True, they are not *trout* or *salmon;* but, taken from the pond and put into spring water a few days before they are wanted for the table, they are quite as good as most of the fish sold in the Boston market.

The following list of applicants were supplied with from fifty to sixty carp each: A. L. Dame, Methuen; Geo. Sibley, Salem; S. E. Abbott, Salem; J. R. Downing, Brighton; E. B. Quinn, Lowell; Henry E. Hosmer, Millis.

Trout.

The artificial hatching and distribution of trout into streams which have been depleted largely by overfishing, has, in a majority of cases, proved successful. The disappointments, which have been few in number, have arisen mainly from not understanding the habits and haunts of these fish, and depositing them in unfavorable parts of the stream. Any one familiar with a trout stream can, in the latter part of October, easily find where the trout are spawning in it. In depositing the young fish, they should never be put in below that point. It is always safe to put them in at the head-waters, where they are comparatively free from their enemies, and the temperature of the water, which usually flows from springs, remains about the same throughout the year. Such places are generally supplied with an abundance of good food, upon which the trout can feed at all seasons.

Do not suppose, because you have put five or six thousand fry into the stream, that in two or three years you will have anything like that number of grown-up fish. Nature everywhere makes a thousand failures to one success. But this you can depend upon: if there are already enough trout in

the stream to produce, in one year, five thousand eggs, and you plant, *properly*, in the spring, five thousand young fry artificially hatched, and protect them, you will have, at the end of three years, twenty times as many large fish, as the result of your planting.

All statements and assertions that artificially bred fish are not as strong and healthy and as likely to mature as those hatched from eggs naturally deposited in the water, are without foundation, and are the result of ignorance and lack of scientific observation. In ninety-nine cases out of a hundred, the young fry produced under culture are healthier and stronger than those produced naturally in their waters, and left to the various changes they are more or less subjected to. Twenty years of close observation on the part of those who have been practically engaged in hatching and rearing fish, has settled this point beyond a question of doubt.

It is easier to restock a stream having a few large trout in it, than one that has none. The large fish are an important factor in destroying many of the enemies of the young trout, and they never feed upon the smaller ones unless deprived of their natural food or demoralized by disease. We have caught thousands of trout in their native streams, and never yet found one that had been feeding upon its own species. It is always an excellent practice to open fish and game, and find out what they have been feeding on. In game it often determines their haunts, and in fish it indicates what bait to use. If trout have been feeding upon one kind of food for any considerable length of time, they are not likely to change until that supply is exhausted.

So far as our own experience and observation extends, in all instances where failures have occurred in restocking rivers and streams, they have been due either to mismanagement, or to a condition of the water that would have rendered the introduction of either naturally or artificially bred fish equally abortive. This is true of all streams of which we have any knowledge. It has been clearly demonstrated in all the smaller streams under our care, and in the larger and more important experiment of restocking the Merrimac River with salmon. All our early efforts on this

river failed, and it was not until a knowledge of the necessary conditions was obtained that success became certain.

The four hundred thousand trout eggs received last January from the hatchery at Plymouth, N. H., were hatched with a loss of about six per cent., and were distributed as follows* : —

C. Curry, Fiskdale.
E. G. Loomis, Bedford.
L. D. Bailey, Shelburne Falls.
L. Rawson, East Holliston.
E. S. Merrill, Winchendon.
G. W. Hathaway, Dedham.
J. P. Woodworth, Chicopee.
Geo. McAleer, Worcester.
Wm. Levering, Highlandville.
J. B. Peck, North Attleborough.
C. Ticknor, Great Barrington.
M. V. B. Edgerly, Springfield.
J. A. Loring, West Barnstable.
C. S. Wheeler, Williamsburg.
E. H. Dewey, Williamsburg.
T. L. Cushman, Springfield.
N. S. Chandler, Springfield.
E. L. Parker, Pittsfield.
J. H. Manning, Pittsfield.
Dr. Burton, Pittsfield.
H. R. Pierson, Pittsfield.
W. H. Little, Sheffield.
E. A. Lavigne, Springfield.
F. D. Foote, Springfield.
Henry Huck, Springfield.
Jas. O. Parker, Methuen.
A. L. Dame, Methuen.
Chas. V. Dudley, Whitinsville.
Wm. E. Carter, Burlington.
H. H. Patten, Springfield.
J. A. Murphy, Springfield.
F. H. Fuller, Springfield.
Dr. Samuel Camp, Gt. Barrington.
S. W. Ingalls, Zylonite.
C. A. Howland, Zylonite.
H. T. Whitin, Whitinsville.
A. E. Scott, Lexington.
J. B. Bottum, Northampton.
C. W. Cheney, Athol.
H. G. Crowell, South Yarmouth.
Geo. L. Johnson, South Amherst.
Eben B. Crocker, Barnstable.
Ira E. White, Wakefield.
Arthur W. Hale, Ipswich.
Joseph I. Horton, Ipswich.
Jas. L. Ward, Ipswich.
N. C. Locke, Salem.
A. C. White, North Orange.
E. C. Hawkes, Charlemont.
C. A. Hawkes, Charlemont.
Benjamin F. Cook, Gloucester.
W. C. Dalzell, South Egremont.
R. L. Taft, New Marlborough.
Wm. Provin, Westfield.
Geo. E. Whipple, Westfield.
Frank Fowles, Westfield.
Sidney Harrocks, Westfield.
David Hull, Westfield.
B. P. Owen, Easthampton.
J. Mahew, Easthampton.
Dr. G. B. Elliott, Lawrence.
Geo. E. Gates, Athol.
R. D. Bisbee, Chesterfield.
B. C. Cahoon, Falmouth.
Thos. H. Lawrence, Falmouth.
J. P. Rogers, Saxonville.

There will be about four hundred thousand trout fry for distribution next spring. They will be delivered free at the hatching house, Winchester, Mass., and cans will be furnished for transportation, to be returned to the hatchery at

* For ponds and streams in towns named, or vicinity.

applicant's expense. All applications should be made before the first of April, endorsed by either senator or representative of the district. Trout fry cannot be entrusted to the express, and a responsible person should be sent to take charge of them. Such a person can take charge of twenty-five or thirty thousand fry, and, when several applicants reside on the same line of road, expense may be saved by arranging with one competent man to care for several cans to be distributed along the route.

Land-locked Salmon.

There were one hundred and twenty-five thousand eggs of these fish received March 7, 1888, from Grand Lake Stream, Me., which were hatched and distributed as follows* : —

E. G. Loomis, Bedford.
J. B. Peck, North Attleborough.
J. O. Parker, Methuen.
A. L. Dame, Methuen.
N. C. Locke, Salem.
B. P. Owen, Easthampton.
B. C. Cahoon, Falmouth.
Thos. Lawrence, Falmouth.
H. G. Baker, Fall River.
H. B. Maglathlin, Pembroke.
C. A. Howland, Zylonite.
Wm. D. Sohier, Beverly.
C. Curry, Fiskdale.

The Cultivation of Migratory Fish in Ponds.

An interesting experiment is being carried on by the United States Commissioner, in retaining artificially hatched migratory fish in small ponds, free from their enemies, and feeding them until they are one or two years old. The experiment is not a new one. It was tried in several places, both here and in Europe, during the early years of fish culture. It was found that there was a serious mortality the first year, less the second, and scarcely any loss the third. There were many theories put forth to account for this loss, which appeared to be about the same in all cases. The probabilities are, that it arose from lack of proper food; and this theory is strengthened by the fact that the larger fish are often found eating the weaker ones, — a condition that is not likely to occur when they are supplied with such food as they find in their natural haunts.

* For ponds in towns named, or vicinity.

From thirty to forty per cent only of the young fish were raised. Where these ponds were established at the head-waters of rivers and streams for the propagation of trout and salmon, there appeared to be some advantage in it. In streams suitable for the rearing of these fish, their principal enemies are frogs, water-snakes and several species of birds. In ponds under our care, frogs were often taken having inside of them from ten to fifteen young trout or salmon. The water-snake is equally destructive, and both should be carefully kept out of all such ponds.

This method of culture was found to be expensive both in the care and maintenance of the fish, and especially in transportation. While from four to five thousand young fry can be carried in one can, only about fifty of the two-year-olds can be safely carried in the same can. It was also found that fish so reared lost, to a great extent, their instinct of self-preservation, allowing carnivorous fish to approach them without fear, and were speedily destroyed. Whatever may be the enemies which the young migratory fish have to encounter during their stay in fresh water, the loss is small, compared with what takes place in the sea. This is seen in our alewife fisheries, where, in a single stream, millions of young fish yearly go down to the sea, and only from seventy-five to a hundred thousand adult fish return. Fish that run in schools, like the alewife and shad, are more liable to fall a prey to their enemies than those that are not gregarious. For this reason, in order to maintain the balance, nature has supplied them with increased power of reproduction. A full-grown alewife will cast from a hundred to one hundred and fifty thousand eggs in a season, while a trout of the same weight will cast less than a thousand.

While the experiment above alluded to, carried on, as it will be, scientifically, may lead to additional knowledge of the habits and growth of fish, it is doubtful if it will result in a practical and easy method of increasing the supply of food.

Salmon in the Merrimac.

In order to understand the work of restocking this river with salmon, reference should be made to statements in former reports, especially those of 1886–87, from which we

extract the following figures of the number of salmon taken at North Andover, while fishing for shad, and returned to the river alive, and those seen passing over the Lawrence fishway, which is closed for inspection for only about a half-hour each day.

	North Andover.	Lawrence Fish-way.
1886,	9	11
1887,	11	69
1888,	51	91

These data give an approximate idea of the relative increase during the last three years.

We stated, in last year's report, that: —

> Salmon in the Merrimac spawn in the fall and return to the sea on the spring freshets. As they spawn every other year, the run of this year will not, therefore, return till 1889. There is no reason to conclude, however, that there will be any decrease next year, as the continuous planting at the head-waters will more than make up for the absence of these fish, while the run for 1889 should be more than double that of this year.

This year, one hundred thousand salmon eggs were taken from salmon secured at the hatchery at Plymouth, which, with what will be received as Massachusetts' share from the salmon-breeding works at Bucksport, Me., will enable us to plant in the river next spring about five hundred thousand young fish.

It should be remembered, that, when we commenced the work of restocking this river, no salmon had been known to enter it for more than twenty-five years. The existence of dams and the condition of the water, arising mainly from cutting off the forests, rendered the experiment a doubtful one. It is now apparent, that, if we had proceeded less cautiously, the present results would have been sooner developed.

Among the obstacles to the successful restocking of our rivers with salmon, is the number of these fish destroyed by

the weirs and pounds. The pound and weir men, in the long and expensive hearings before the legislative committee, have always protested that they did not interfere with the inland fisheries; but, if the reports we have received can be relied upon, they have taken many salmon in their traps, — a thing entirely unknown until the State began to stock the rivers with these fish. One weir is reported, on good authority, to have taken twenty-three salmon in one season. These salmon undoubtedly belong to the rivers in which they have been planted by the State. That the pound and weir men understand that it is unlawful to take and retain them, is evident from the fact that, where they are *known* to have been taken, they have not, as a rule, been included in the annual returns.* As this destruction of the salmon materially interferes with the restocking of our rivers, it is to be hoped that the fishermen will regard the interest of the State, and return them alive to the sea.

The restocking of the Merrimac with salmon is one of the most interesting and successful experiments in the whole history of fish-culture.

To the Commissioners on Inland Fisheries for the Commonwealth of Massachusetts.

Gentlemen: — As instructed by the Commissioners of Massachusetts and New Hampshire, I have rebuilt the hatchery that was destroyed by fire last winter. The new building is 55 × 26 feet, with an office and work-room at one end; painted inside and out, and finished in a thorough manner. New hatching troughs and trays have been put in, making it a first-class hatchery in every respect. The water pipes were not disturbed by the fire, thus there was no outlay for water supply.

A new building, 16 × 14 feet, has been built near the breeding-ponds, to be used for boiling and cutting the meat for the trout, and for taking eggs in when stormy, or during very bright sunlight. I found it necessary to build a double barbed-wire fence around the trout ponds, six and a half feet high. The whole expense will be not far from one thousand dollars, of which five hundred dollars was paid by the insurance on the old hatchery, and the balance by Massachusetts and New Hampshire. Fortunately, when the fire occurred, the whole of the four hundred thousand trout eggs had been sent to Winchester.

* Seventy-seven salmon are given in returns of weirs this year.

The first salmon was taken June 27. The run was larger than last season, and many of the fish were very large; one male and female measured forty-four and a half inches each in length. Fourteen thousand eggs were taken from the female the last week in October. There are now about one hundred thousand salmon eggs in the house, taken from the Merrimac River salmon this season. They are now advanced far enough to show that the loss will be very small, — less than two per cent.

I disposed of as many of the male trout as I could, and used the money to purchase small wild trout, from four to eight inches in length; and, to make room for the small trout now in the large reservoir, I shall be obliged to dispose of more large males in the spring.

The number of brook trout eggs taken last season was eight hundred thousand, of which four hundred thousand were sent to Winchester in January and February. The number this year will be nearly as large.

One female land-locked salmon, six and a half pounds in weight, was taken in the river. Four thousand eggs were taken from her. No male of that species being taken, the eggs were impregnated with milt from the *Salmo salar*, or Merrimac River salmon.

All necessary repairs to the tanks and ponds have been made, and the station has never been so well equipped for work since it was built as at the present time.

Respectfully yours,

E. B. Hodge, *Superintendent.*

Plymouth, N. H., Dec. 4, 1888.

Connecticut River.

In our efforts to propagate and maintain our food-fishes, we have many obstacles to encounter. As soon as it is known that there is an increase of fish in any place, it is a signal for the fishermen to raid upon it, and in a short time it is depleted by overfishing. The well-known improvident character of many of the fishermen, leading them to take all they can to-day, regardless of to-morrow, is everywhere dominant. The history of the fisheries, down to within a few years, is little else than a record of indiscriminate slaughter. Many of the laws that have been passed were dictated by the fishermen, and appear to have been intended, largely, to settle conflicting interests among themselves, with little regard to the maintenance of an important in-

dustry. It is difficult to point to any instance where they have combined, with intelligent action, for the preservation of the fisheries, or where they have not more or less opposed all legislation intended for that purpose, when it called for any sacrifice on their part. The consequence has been, that a source of food, second only to bread and meat, has been steadily decreasing.

It was to arrest this destructive tendency, and bring order out of this chaotic condition of the fisheries, that a more healthy and conservative feeling sprang up all over the country, leading to the appointment of commissioners in thirty-seven States and territories, and also a United States commission to co-operate with the State commissions. These men have generally been well fitted for the position, unselfish in their aims, acting solely for the public good, and consequently in the true interest of the fishermen. Most of them have served without pay, and those who have been paid, have been poorly compensated for their labor. If they have not in all cases succeeded in the work intrusted to them, the fault is not theirs, for they have everywhere counselled and advised methods, which, if they had been heeded, would have led to success. That they have not always been sustained, that the fishermen, still clinging to their old habits, have sometimes prevented healthy legislation, is well known. A notable instance of this is found in the efforts of the commissioners to regulate the fisheries of the Connecticut River. This river runs through four States, and each State has an undoubted right to a share in the fisheries. Soon after the commissioners were appointed, they held frequent meetings, and, in a spirit of comity, decided what would be just to each State. It was very evident, from the beginning, that, unless some restrictions could be placed upon the pounds, seines and gill-nets, at the mouth of the river, the fisheries on the upper portions would be worthless. The commissioners of the different States were responsible for the fulfilment of the agreement, and those of New Hampshire, Vermont and Massachusetts performed their part in a liberal manner. A long and expensive lawsuit, defining the rights of the commissioners to cause fishways to be built over dams, was, after passing through the lower courts,

decided, in the Supreme Court of the United States, in favor of the Commission. Fishways, costing many thousands of dollars, were constructed, and a hearty co-operation extended to Connecticut, for the purpose of restocking the river. Meantime, there was a conflict between the Connecticut commissioners and fishermen, and also a bitter feeling among the seiners, gill-net men and pound men, each accusing the other of overfishing and interfering with their rights. It is probable that either of the contending parties would have united with the commissioners in controlling the other; but the commissioners did not secure success by attacking the divided forces of an enemy, and, in the contest before their Legislature, were defeated.

A law had been passed by the Connecticut Legislature, protecting the salmon which had been put into the river by the commissioners of the four States, but was repealed before the fish had time to return from the sea; and they were prevented from reaching their spawning grounds by being destroyed by the pounds, seines and gill-nets at the mouth of the river.

The commissioners of Connecticut and Massachusetts also stocked the river well with shad. In 1879 the catch of shad on the lower part of the river was 436,981, the market value of which was $61,177.34. Finding that the State of Connecticut did not sustain its commissioners, and that the fishermen had no appreciation of what was due another State, the commissioners of Massachusetts declined to make further expenditures for which they received no return; and, in doing so, stated that it was only a question of time when the great shad fisheries of the Connecticut River would be destroyed through the cupidity of the fishermen. Subsequent events have shown that we were right; and, in proof, we append a record of the catch of shad on the lower part of the river for the last ten years: —

1879,	436,981	1884,	150,045
1880,	269,918	1885,	190,300
1881,	351,678	1886,	117,950
1882,	272,903	1887,	80,350
1883,	177,308	1888,	*68,450

* A decrease of eighty-four per cent. in ten years.

Only eight hundred were taken by seines during the past season. Practically, to this class of fishermen, the shad fisheries of the Connecticut are of the past. The seiners are loud in their condemnation of the pounds; complain that the commissioners have not protected the fisheries, and assert that artificial hatching is a failure.

The Connecticut commissioners state, in their last report, "that, as the shad decrease in number, the fishermen seem more and more reluctant to give details of their work, as if the commissioners were in some way hostile to them."

It is the old and oft-repeated expression of human weakness, that seeks to lay the blame due to ourselves upon those who are not responsible for it. The commissioners of Connecticut have repeatedly pointed out to the fishermen the consequences of their action, and had a right to expect that the Legislature would have heeded the advice of men who were devoting their time entirely to the interest of the State.

The history of the fisheries of this river, from the time it came under the supervision of the commission to its present exhausted condition, presents an unanswerable argument in favor of fish culture. It also affords a striking illustration of legislation largely influenced by men who appear to see nothing beyond their immediate wants.

The following editorial, from a leading journal on fish culture,* was suggested by the complaints of these fishermen: —

Fishermen and Fish Propagators.

"Fishermen seem to have lost faith in shad propagation as a means of restocking the river."—*Bridgeport (Conn.) Standard.*

This river may be the Housatonic, or it may be the Connecticut, it matters little which particular river; it is some river, somewhere, and thus the summons in the action, "The Fishermen *vs.* the Fish Culturists," has been served without the complaint. If a man should, in the year of our Lord 1888, wander into an isolated camp of Digger Indians, and be moved thereby to exclaim, "Civilization is a failure!" there would in all probability be some other man waiting out in the sage-brush ready to repeat the exclamation, without really knowing or caring what it meant; and, in time, there might grow up a society of crusaders, with a mission to have

* "Shooting and Fishing."

an annual dinner, at which the members could tell why civilization was a failure, and deplore that the Digger Indians, who have been here since before the Pilgrims, did not understand the rules of base ball, could not figure out election returns, did not wash their faces from birth to death, knew nothing of Volapuk, and could not, in a tenor voice, call "Central" through the telephone. It is possible, because fishermen in one particular locality may conclude that fish propagation has not brought back to them what they have in some way lost, that fishermen in other localities may arrive at the same conclusion without giving the matter proper thought.

Fish propagation is not a panacea, a cure-all, for every stream and pond and lake and ocean that has been overfished. There are cases that it cannot cure, and its professors say so plainly; there are other cases that it tries to cure, and would cure, with proper attention paid to the remedies prescribed, and to which the attendants of the patient give little heed; there are still other and a far greater number of cases that it cures every time, because all requirements are complied with. It does not necessarily follow, that, because a river once contained shad in abundance, it will always be thus prolific, even though the entire product of the shad-hatching jars of the United States Fish Commission be turned into its waters. Times change, and rivers change with them. The volume of water may be reduced and its temperature become warmer, as the forests are cut down and its fountain springs dry up. Cities and towns increase and multiply, mills and factories spring up, and all add to the pollution of river water. Owing to changed conditions, the all-important supply of natural fish food may diminish or disappear. Dams may cut the fish off from their breeding grounds. Engines of destruction increase with the increase of population and demand for food fish, and not always are there proper legal restrictions as to the means and times of fishing. One cannot fill at the spigot and draw at the bung, and escape making an assignment for the benefit of creditors, although a liberal and generous government may be the endorser. If one river with seemingly proper conditions for restocking with a certain fish proves to be unfertile after the experiment of restocking is tried, it would be well to investigate, and find what favorable condition is actually lacking, rather than pronounce fish propagation a failure at a time when other and perhaps adjoining streams controvert the statement.

In the Hudson River the shad nets increased to such an extent, with the increase of shad under artificial propagation, that it was almost impossible for a sufficient number of shad to find their way

to natural spawning grounds, and furnish eggs to carry on the restocking operations. The close season from June 15 to March 15 in each year was not sufficient, and last year (1887) the Legislature passed a law which forbids the taking of shad in the river between sunset on Saturday and sunrise on the following Monday; but its utility was practically nullified by the insertion of a clause confining its application to that part of the river where the blockade does not exist.

In spite of the Legislature and the shad fishermen with their barricade of nets, the shad have increased in the Hudson. We can find only the figures for the past three years, 1885, 1886 and 1887; and the number of shad taken in these years are respectively, 1,174,835, 1,300,949 and 1,568,634. This increase is doubtless owing in part to the contributions of shad fry made by the United States. The plantings made by the State Commission have depended upon the abundance or scarcity of breeding fish to be obtained. Shad fishing in the river was at a low ebb in 1870, and the greatest plant made by the State, over 8,000,000, was made in 1871. As shad increased, nets increased, and the State Commission could not get sufficient breeding shad for their purpose. In 1885 the plant by the State was 1,728,500 fry. Until shad are allowed a passage up-stream, the State Commission will be hampered in their shad-hatching operations; and when for this reason the shad decrease, the fishermen may say that the propagation of shad is a failure.

Lobster Fisheries.

Valuable information has been obtained during the past year in regard to these fisheries. The Massachusetts coast has been patrolled from Rhode Island to the New Hampshire line, and, for the first time in the history of the State, statistics of the lobster fisheries have been obtained.

On the 14th of last June, under the authority of chapter 389, Acts of 1888, Mr. Wm. H. Proctor was appointed on the district police force, and was immediately detailed to assist the commission in enforcing the laws on fish and game. As a preliminary step toward carrying out the intention of the Legislature, so far as the lobster fisheries were concerned, it was deemed necessary to obtain full statistics concerning them. By referring to Mr. Proctor's report and the appendix, it will be seen that during the year there were engaged in this business 367 men, using 22,310 traps, with

an estimated catch of 1,740,850 lobsters. At the average price of nine cents each, the lobster fishery for the year is valued at $156,676.50.

Having only a small sail boat at our command with which to prosecute this work, the difficulties and delays on account of the weather and other unavoidable circumstances caused much loss of time and serious inconvenience. If the laws for the protection of lobsters are to be enforced, if the annual shipment of hundreds of thousands of short lobsters in sailing vessels to New York and other States is to be stopped, a small steamer, drawing not more than four feet of water, with speed enough to overhaul ordinary sailing vessels, should be substituted for the present police boat. Such a boat could be bought for a small sum, and, as it would not require a professional engineer, its running expenses would be comparatively light. The laws cannot be enforced without it, and the State cannot afford to allow these valuable fisheries to be destroyed, when we can with moderate expense protect and increase them.

It will be seen by Mr. Proctor's report, that, notwithstanding the great depletion of the lobster fisheries of this State, it is still an important industry, and that there exists at present a sufficient number of breeders to restock our waters, provided reasonable laws are passed and strictly enforced for their protection. It needs no argument to prove to any intelligent, unprejudiced mind, that, if this is not done, the lobsters are doomed to certain destruction. What has taken place in other countries and States will surely follow here, unless we are wise enough to prevent such a disaster. Every country boy who keeps hens knows that if he kills them he cannot have eggs, and without eggs he cannot have chickens. The lobster is a bay or estuary animal, and therefore is easily killed out. If this destruction is permitted, and no protection given the breeding females, how is the fishery to be maintained?

Will the State, regardless of the future, allow the destruction of an industry which might be made to produce annually millions of pounds of healthy food, and give profitable employment to hundreds of fishermen? The subject certainly demands the careful consideration of the Legislature.

The ten and one-half inch law, while it regulates the lobster to a marketable size, does not protect the spawning lobsters. There are no laws in this State which are effective in preventing the decrease of the lobster fisheries. No legislation that does not protect the breeding lobsters, during at least a portion of their spawning season, can arrest the certain destruction of this valuable crustacean.

The State of Maine has a closed season, from the first day of August to the fifteenth day of September; and New Hampshire from the 15th of August to the 15th of September.

The Dominion government, acting with a broader and more comprehensive idea of what is due to the protection of these fisheries, has established the following closed seasons: — Province of Quebec, from the 15th of July to December 31; Nova Scotia, from the first day of July to December 31; on the Atlantic coast, from Cape Canso to the boundary of United States, and on other parts, from the 15th of July to December 31; same for New Brunswick; Prince Edward Island, from July 15 to December 31. The rapid decrease of the lobster in the waters of the Dominion (which are still far better stocked than our own), led to prompt and decisive action.

Thus it will be seen that the waters of the Atlantic coast, where there are lobster fisheries, are protected by a closed season, except those of this State.

The closed season in Maine, New Hampshire and the Provinces, had an injurious effect upon our own fisheries. In consequence of cutting off the supply from these places, the price of lobsters in July, August and a part of September, rose to seventeen cents a pound, thereby inducing many to enter the business, who otherwise would not have done so, and filling the market with poor, soft-shelled, watery lobsters, unhealthy and unfit for food. The high price in this State was a strong inducement to the fishermen of Maine to violate the laws of their State; and, as it stimulated our own fishermen to an extraordinary catch, it became a serious element in the further depletion of these fisheries.

We have for the last two years urged upon the Legislature the importance of a closed season; but the short-sighted

policy of the fishermen, and their opposition, regardless of their own interests and the public good, has prevented its passage. If a closed season cannot be had, the only substitute we can advise would be an amendment to the ten and one-half inch law, increasing the lawful size of marketable lobsters; the protection of egg-bearing lobsters throughout the whole year, and the establishment of one or more places on the coast for propagation.

No one who is not familiar with the subject can form an adequate idea of the amount of labor necessary, even under the most favorable circumstances, to carry out the intentions of the Legislature. There have been, during the past year, sixty-one arrests and fifty-three convictions for violations of the lobster law. We recommend that the lobster-catchers be required to make annual returns of their catch; and, also, that the commissioners and their deputies shall have authority to arrest on sight persons who are actually engaged, at the time, in violation of the law.

SWAMPSCOTT, October, 1888.

Commissioners on Inland Fisheries and Game.

GENTLEMEN: — As a district police officer, appointed June 14, 1888, and detailed for your use, I respectfully submit the following report.

FISH.

I have inspected the Massachusetts coast from New Hampshire to the Rhode Island line, and have ascertained the names and post-office addresses of 552 persons who are proprietors of weirs and pounds, or of gill-nets and seines. Of these, 130 are weir or pound proprietors, and represent 145 weirs or pounds; 422 are net owners, and they will average about 6 nets each, making an estimate of over 2,500 gill and sweep nets.

LOBSTERS.

I have also ascertained the name, number of traps, and estimated catch of each lobster fisherman, the total of which is as follows: 367 men; 22,310 traps; 1,740,850 lobsters. The average price for lobsters is nine cents each, amounting to $156,676.50 annually. The names I have obtained are of regular fishermen, who catch fish and lobsters for a livelihood. There are others who set a few traps to catch lobsters for their own use, and these, with a few that I may have missed, would make the amounts a trifle larger.

The number of short lobsters taken from the traps in a season will exceed the number that will measure ten and one-half inches and over; and some of the fishermen claim that they cannot help catching these little ones.

About ten years ago fried lobster was introduced, and people went into the business of mutilating lobsters, selling the tails of small ones for one cent and afterwards for two cents each. It was then the lobstermen put the laths on their traps nearer together, and knit the meshes in the heads smaller, that they might catch the very small lobsters. The same rule will work two ways. If they do not want to bother with these small ones, let them put their laths or sticks farther apart, and knit the meshes in the heads of their traps a little larger, and two-thirds of these little ones will not be seen.

From the year 1878 to 1887 the fishermen disposed of these little ones regardless of the law. Some would sell the tails to dealers for one or two cents each, while others would supply the summer hotels. In this way they destroyed over two millions of lobsters annually that were not large enough to spawn. Since 1887 the greater part of this business has been stopped. The commissioners have taken steps to enforce the law, and nine-tenths of the fishermen of Massachusetts Bay return the little ones to the water.

Out in Vineyard Sound and in the waters near the Rhode Island line, I found the fishermen selling the small lobsters at one and one-half cents per pound to lobster smacks that belong in New York, when lobsters were worth ten cents per pound at wholesale in Massachusetts. All the fishermen in that locality made a regular business of selling small lobsters to be carried in smacks to New York. I found also three clubs, composed of New York gentlemen who spent the summer months at their club-houses, situated on Martha's Vineyard and Elizabeth Islands. These gentlemen, who fish for striped bass, employ men to catch lobsters of all sizes for bait; and, although they use only a very small portion of what is caught, they encourage the fishermen to violate the law.

Before Maine had a close season, lobsters sold at three or four cents apiece during the months of August and September. This year Maine and the Dominion government both have a close season to protect their lobsters, and Massachusetts is made to suffer.

These poor, thin-shelled, watery lobsters, caught during the months of August and September, are sold by the fishermen at ten cents per pound. With this high premium on lobsters, all the fishermen, many of whom never caught lobsters at this season before, because they were worthless, and they could earn more

money at other fishing, put out their traps. If this business continues, it is only a matter of time when the lobsters will be exterminated. Lobsters were growing less plentiful every year, with only a few men fishing through the summer months. If we do not have a close season, the demand for lobsters, while they are protected in other States, will exhaust the supply very fast. I think we should have a close season during the months of July, August and September, because lobsters shed their shells in June and July, and their new shells do not become hard until late in the fall. Lobsters during these months are so thin-shelled, that, if they were properly boiled, they would boil to water and be similar to a balloon. The dealers, in order to save the weight, steam them ten or fifteen minutes, just long enough to turn the shell red; and many who eat them in this half-cooked condition are made sick.

Chatham is an exception, and is the only place on the Massachusetts coast where they catch good hard lobsters in the summer. There seems to be a school of lobsters on the shoals between Chatham and Nantucket that differ slightly in habits from all others in Massachusetts or Maine waters.

Fifteen or twenty years ago, twenty-five or thirty traps were enough for one man, and he could catch more lobsters than he can now in a hundred. He never would save one that weighed less than two pounds, with a hard shell. Now they set as high as two hundred traps to a man, and save both hard and soft shelled lobsters, three out of every four weighing less than two pounds each; and still some fishermen claim they are just as plenty as ever.

I think the law protecting egg-bearing lobsters should be extended throughout the year, as every month some are found with eggs. Every lobster bearing eggs has from thirty to forty thousand eggs, and I think should be thrown back into the sea whenever caught. Deputy Horton and I counted the eggs on a twelve-inch lobster, and found 38,500.

The following is a list of the seizures, parties arrested, and results of the trials in court: —

June	30.	Seized thirty-four lobsters from Louis O. Sargent, at Manchester.
July	6.	Case tried at Salem, fined $30 and costs.
	18.	Seized twenty lobsters from Robert Ansley, at Cohasset.
Sept.	22.	Case tried at Quincy, fined $30 and costs.
July	18.	Seized six lobsters from Manuel Vandura, at Cohasset.
Sept.	22.	Case tried at Quincy, fined $30 and costs. For assaulting officer, case placed on file.

July 18. Seized twenty lobsters from John Grassie, at Cohasset.
Sept. 22. Case tried at Quincy, fined $30 and costs.
July 25. Seized one hundred and seven lobsters from Chas. F. Stranger, at Gosnold.
Aug. 2. Case tried at Cottage City, fined $100 and costs.
July 25. Seized forty-five lobsters from Oscar H. Stetson, at Gosnold.
Aug. 2. Case tried at Cottage City, fined $100 and costs.
July 25. Seized thirteen lobsters from Frederic M. Redmond, at Gay Head.
Aug. 2. Case tried at Chilmark, discharged.
3. Seized one lobster from Louis H. Pease, at Cottage City; fined $5 and costs.
23. Seized thirteen lobsters and seven tails from Addison Lamphier, at Point of Pines.
Oct. 27. Case tried at Lynn, fined $65 and costs.

The case tried before Trial Justice Hillman at Chilmark was lost in the following manner: On the twenty-fifth day of last July, the schooner "Edwina C. Redmond" was anchored off Gay Head, taking on board a load of lobsters of all sizes. I went alongside in my boat, and the captain forbade me to come on board. Notwithstanding his orders, I jumped on the deck, while his men let the crate of lobsters run overboard that they were in the act of taking in when I came alongside. I seized thirteen little ones that they did not have time to get overboard, and arrested Captain Redmond. I took him before Trial Justice Hillman, had the warrant filled, and the complaint properly alleged and dated. He discharged the prisoner because I omitted the words eighteen hundred and eighty-eight in my testimony, claiming that he could not tell whether the offence took place in the year 1800 or 1888. He gave his decision without giving the government side a chance to say a word; and, when I told him that I wished to argue the case, he said that his mind was made up, and what I could say would not change his decision. The case was a clear one, and the prisoner did not deny the charge, the lobsters being very small.

Having only a small sail boat to cruise about in, starting late in the season and encountering much bad weather, I have found it difficult to inspect the coast in a satisfactory manner. On pleasant, calm days we could not get anywhere, and when the wind came it would oftentimes blow too hard for a small boat. If we had a small steamer, so as to improve the good weather, and not have to wait for wind or tide, I see no reason why the fishing interests of this State cannot be thoroughly protected.

Yours truly,

Wm. H. Proctor, *District Police.*

To the Commissioners on Inland Fisheries.

GENTLEMEN: — As one of your Deputy Fish Commissioners of the State, I respectfully submit the following report.

From April 1 to October 4, I have spent 83 days in the business of enforcing the laws of the State regulating the sale of lobsters. Number of seizures made, 42; number of parties brought before the courts, 33; number of convictions, 29; number of persons discharged, 4.

The following list gives the names of the parties that have been brought before the courts, and the amount of fine imposed in each case: —

HAVERHILL CASES.

			FINE.
April	17.	A. J. Hodgdon, convicted,	$20 and costs.
May	1.	Higgins & Lewis, convicted,	10 and costs.
	1.	Mark W. Mahoney, convicted,	15 and costs.
	1.	Mark W. Mahoney, convicted,	15 and costs.
	1.	Mark W. Mahoney, convicted,	5 and costs.
	1.	Homans & Putnam, discharged.	
	1.	E. D. Harriman, discharged.	

LOWELL CASES.

May	3.	J. L. Shay, convicted,	$20 and costs.
	3.	O. J. Gilbert, convicted,	15 and costs.
	5.	Keefe Brothers, convicted,	15 and costs.
	5.	Samuel P. Pike, convicted,	5 and costs.
	5.	C. A. Robinson, convicted,	5 and costs.
	5.	Gray Brothers, convicted,	5 and costs.
	21.	W. H. Sullivan, convicted,	10 and costs.
	21.	C. M. Allen, convicted,	10 and costs.

LAWRENCE CASE.

May	11.	James Connell, discharged.	

TAUNTON CASES.

June	4.	C. Ryder & Son, convicted,	$80.
Aug.	18.	James Mullaney, convicted,	20.

PEABODY CASES.

Aug.	13.	R. J. Winton, convicted,	$15 and costs.
	13.	R. F. Dodge, convicted,	10 and costs.
Sept.	4.	R. F. Dodge, convicted,	40 and costs

BEVERLY CASE.

Sept.	10.	Geo. S. Seeley, convicted,	$50.

GLOUCESTER CASE.

			FINE.
Sept.	11.	Nelson Rowe, convicted, ...	$5 and costs.

BROCKTON CASES.

July	26.	N. C. Newcomb, convicted, ...	$10 and costs.
	31.	Percival & Cox, convicted, ...	5 and costs.

FALL RIVER CASES.

Aug.	2.	C. A. Sanford, convicted, ...	$25 and costs.
	2.	J. Higginbothom, convicted, ...	10 and costs.
	7.	A. C. Gifford, convicted, ...	20 and costs.
	23.	Jesse M. Shaw, convicted, ...	20 and costs.
	24.	George B. Gifford, convicted, ...	10 and costs.
Sept.	27.	George B. Gifford, convicted, ...	15 and costs.
Oct.	3.	Daniel A. Crapo, convicted, ...	20 and costs.
Aug.	23.	Jesse M. Shaw, discharged.	

[This was a case for having in possession egg-bearing lobsters in July. It was shown that the lobsters were caught in Rhode Island.]

Total amount in fines and costs, ... $703.40

The parties that have been brought before the courts have generally found no fault, but paid their fines, said they knew the law, but did not think there would be any complaint if the lobster was within half an inch of the required length. All have admitted that it was right to enforce the law, and freely furnished me with information in reference to the traffic. Full liberty has been given me to search at all times and places, even to the stopping and searching of a wagon on a public highway. Expressmen have freely consented to an examination of their wagons. Railroad station agents have granted me all favors asked, and the judges of the several courts without exception have shown a willingness to sustain the decision of the supreme court in reference to the possession of short lobsters; in fact, there is no opposition to the law, except that furnished by the short-sighted catchers of lobsters, who, blind to their own interest, persist in destroying an industry that furnishes them with a living. When lobsters eight inches in length are selling at eighteen and twenty cents per pound, as was the case early in the season, there is quite an inducement, and a temptation not easily resisted by many of the poorer class of catchers, to retain those that are from eight to ten inches in length; their present necessity being such that the future is entirely lost sight of, — a practice which is certain to further distress them. The lobster has many enemies to contend with. When small, millions of them are destroyed as food for other inhabitants of the ocean; as it increases in size,

its risk of life from this source diminishes; and, when it reaches a length of nine inches, it has little to fear save the fatal trap of the lawless catcher. In many instances, where a good-sized female lobster bearing eggs is taken, the catcher applies the glove or mitten, disposes of the eggs, throws the lobster in with the rest of his catch, and chuckles to himself at having evaded the law, and at the same time saved the twelve cents he will get for the lobster. It is possible the twelve cents received for the lobster may be a fair return for the time spent in removing the eggs; but the returns from the market where he disposed of the sixty thousand eggs will come in later, and it requires but a moment's thought to realize what the returns will be, — the destruction of his business. The several changes in the laws that were suggested last year should be earnestly presented to the coming Legislature, especially the one asking for a close season; for it is evident, if other States see the necessity of a close season, the Massachusetts coast should not be left open. The law in relation to egg-bearing lobsters is sadly deficient. A lobster taken in May or any other month, bearing eggs, and destroyed, has precisely the same effect upon the lobster industry as one destroyed in July. Egg-bearing lobsters should be returned to the water from April 1 to October 1; and it would be better to have them returned at all times. The law of 1882, chapter 91, section 82, should be amended by striking out the words, "taken in this Commonwealth," as it is almost impossible to secure a conviction where the parties claim the lobsters were taken outside the limits of the State. The burden of proof is upon the Commonwealth; and, nine times out of ten, the proof cannot be found.

Respectfully yours,

B. P. Chadwick, *Deputy Commissioner.*

Bradford, Oct. 10, 1888.

Commissioners on Inland Fisheries and Game.

Gentlemen: — Since I received my appointment, July 23, 1888, I have made the following arrests and convictions: —

1888.

July 28. Nehemiah C. Newcomb of Brockton, two short lobsters. Fined $10 and costs; $19.93. Paid.

26. Percival & Cox, Campello, one short lobster. Fined $5 and costs; $15.43. Paid.

Aug. 4. William Croncher, three short lobsters. Discharged.

6. George H. Wilson, Quincy, one short lobster. Fined $5 and costs. Paid.

1888.

Aug. 11. Francis W. French, Quincy, for having in his possession, unlawfully, for sale, three rose-breasted grossbeaks, two yellow birds, one siskin, one linnet. Fined $10 and costs. Paid.

15. Horatio Hathaway, Jr., New Bedford, for shooting three sea gulls at Chappaquiddic. Fined $30 and costs; $44.35. Paid.

Yours respectfully,

FRANCIS PEASE, *Deputy Commissioner.*

BROCKTON, MASS.

SWAMPSCOTT, Oct. 29, 1888.

E. A. BRACKETT, Esq., *Chairman of Commissioners on Inland Fisheries and Game.*

As one of your deputies, I beg leave to present the following report. I have been with Officer Proctor during the summer months as assistant, and have studied the customs of fishermen along the coast. I have been in the lobster business some twelve years, and have noticed the gradual decrease of lobsters during that time. When I first fished for lobsters, there was a regular school of them that came in every spring and went out every fall. Now, by fishing all summer, the school has been broken up, so we cannot tell when they go or come. Twelve years ago, twenty-five to thirty traps were considered a string for one man; now from fifty to one hundred traps are set to catch the same number of lobsters, and they do not run nearly as large.

For many years the fishermen have been mutilating short lobsters; but, owing to the efforts made by the commissioners to enforce the law, many thousands have been thrown back into the sea alive. One lobster-catcher, who makes a business of mutilating lobsters or shipping them to New York, destroys more small lobsters than are sold in all the fish markets in this State. A great many of the lobster fishermen formerly never fished during the summer months; but, the price of lobsters becoming high, owing to the close season in Maine and Canada, nearly all went into the summer business. Unless we have a close season in Massachusetts, continual fishing through the year, in consequence of the high price paid for lobsters, will soon exterminate them. As lobsters are found with spawn on them every month in the year, I think egg-bearing lobsters should be protected the year round. We counted the spawn on a twelve-inch lobster to-day, and found 38,500 eggs.

Yours truly,

FRANK H. HORTON.

Birds and Game.

The change of the law, whereby the close season for ruffed grouse begins December 1, is believed by many to be a mistake.

Legislation concerning the protection of game has been capricious and largely unwise. It is the result of pressure from different sections of the State, each having in a degree differing conditions affecting the game birds, and in some measure of mistaken although honest zeal from the friends of the game.

It is probably impossible to frame a law applying to the whole Commonwealth, that would satisfy entirely people desiring the efficient protection of game; but, in the light of our past experience, of present observation and careful consideration, we recommend a law which shall give a uniform open season of the months of October, November and December, for woodcock, quail and partridge. This will best secure the protection desired, and give ample time and the best time for the pursuit of these birds.

Complaint is made from the Cape that the protected deer are killed illegally. We have no doubt that this is true. Because of lack of definite and sufficient evidence, no prosecutions have been instituted. To protect a closed district like the Cape requires more instrumentalities than we have at hand, without the earnest coöperation of the residents.

A few successful prosecutions for violation of the game law in a neighborhood always results in practical protection for the game in that region thereafter. Prosecutions are instituted whenever the evidence can be had.

The public sentiment in favor of the protection of our song and insectivorous birds is growing, and the moral sentiment of the State is tending strongly in favor of the law for their protection. The diffusion of intelligence concerning all our birds, and concerning the purposes of legislation for close seasons and for protection, is the strongest factor in aid of our efforts. As the people learn the facts, they help us.

Permits.

Permits to take birds were granted to the following persons for the year 1888: —

William Brewster,	Cambridge.
Arthur P. Chadbourne,	Cambridge.
Edward C. Mason,	Arlington.
Arthur C. Bent,	Taunton.
Harry G. White,	Taunton.
Henry A. Purdie,	Boston.
Howes Norris, Jr.,	Cottage City.
Albert P. Morse,	Sherborn.*
Dr. D. T. Huckins,	Watertown.

Returns of Inland Fisheries.

By the appointment of a special member of the State police for the service of the Commissioners, we are at last, by this act of the Legislature, in a position to obtain proper returns of the fisheries, which will give the statistics required by the State. Mr. Proctor's appointment, however, was made too late in the season to secure such full returns for this year as we look for in the future, and we can, therefore, only report partial returns as in the past. The effect of his work is, however, decidedly apparent from the large number of letters received from fishermen who have not made returns owing to their lack of knowledge of the law and the method of keeping an account of their daily catch. In the returns this year will be noticed many of the names of parties who have for years faithfully reported their catch, and to such continuous returns must we refer for the true indications of the increase or decrease of any particular kind of fish in our waters. As it is probable that our returns will be so nearly complete in the future as to enable us to discuss the data obtained with better results than at present, in the present report the comparison of the total catch is given as in former years, and for this reference is made to table IX. in the Appendix of this report.

* For Wellesley College.

Mr. Proctor has obtained a list of 130 proprietors of weirs, pounds and traps, and of 422 owners of gill-nets and seines. Of these only a portion were known to us at the beginning of the season, when the blanks were sent out, and it was too late to obtain the returns from many this year, as they had not kept a record of their catch and were in apparent ignorance of the law requiring such a record. This can now no longer be an excuse, as all have been officially informed of the law, and with an efficient inspector of the fisheries the men who do not in future comply with the law should pay the penalties of their negligence.

Of the number of fishermen stated, we have tabulated the returns of 83 proprietors of weirs and pounds, 8 of traps of various kinds, 134 of gill-nets, 8 of sea-seines, and 19 of alewife nets; a total of 252 out of 552 reported by Mr. Proctor.

It must be stated that of the balance not reporting many have written that they were fishing with other parties who had reported, and others have stated that they were not fishing with nets the past season. It is thus probable that of the total number of fishermen who should have made returns this year about two-thirds have complied with the law.

The large catch of shad along the coast, in the pounds, gill-nets and seines, was far above any catch reported since the comparative tables have been kept. In 1882, the total catch of shad, including the river catch, as reported, was 44,734; this year it is 149,246, against only 19,292 last year. This extraordinary catch on the coast, while attributed in part to the retarded run of the fish to the rivers, must be largely due to the immense number which have been artificially raised during the several years past and placed in rivers along the Atlantic coast. Such an unprecedented increase on the coast, notwithstanding the excessive fishing of past years, seems difficult to account for in any other way.

The menhaden are showing a recovery from the former destructive fishing, and the returns are over 1,300,000 for the season, against 97,500 for 1887. A similar increase in sea herring is also indicated by a catch of over 7,652,000,

against 2,345,000 last year. Alewives show an increase in the returns of about 300,000 over last year.

The catch of mackerel is reported at more than 2,700,000 over the catch of 1887, and all other fishes given in the the table show a considerable increase over the preceding year, with the exception of scup and tautog, which have fallen off from the exceptional catch of 1887, and eels, the reported catch of which is less than last year. As an offset, there are large gains in the catch of bluefish, Spanish mackerel and squeteague. Among the returns of "other edible fish" are large catches of butterfish, and, comparatively, of bonito, sea bass and kingfish.

The additional number of returns this year is not sufficient to account for all the changes noted, as will be seen when comparisons are made with about the same number of returns in the table for 1882, '83 and '84; and it seems as if the large increase of fishes breeding in the reopened rivers is having a marked effect in furnishing an increase of food to the predaceous species inhabiting our waters. Whether this, or the remarkable climatic conditions during the year, is the cause, can only be determined by the future.

The returns from ten nets on the Taunton River show a catch of 6,353 shad and 902,619 alewives, against 4,550 shad and 863,278 alewives caught in eight nets last year. This increase in the number of shad makes it the largest catch in the river since 1882, and there is certainly a cheering prospect that this river can be soon brought up to its proper mark by artificial breeding.

Except at the mouth of the Merrimac River, there was no catch of shad at the usual time on this river, as shown by the single report received from North Andover. At the hatchery on this river, however, 721 shad were taken, nearly all of which were returned alive to the river after obtaining their spawn.

As shown by the daily examination of the fishway at Lawrence, and by those captured at the hatchery, the run of salmon was far in excess of previous years. Seventy-seven salmon are reported as having been caught in pounds along the coast. It is to be hoped that these, with others not

reported, were set free, as the law requires that all salmon taken in pounds or nets must be returned alive to the water.

The catch of shad at South Hadley, on the Connecticut River, was 824, or twenty-six less than last year. Of course, this means that the fishery is now virtually destroyed on this river. The cause of this has been stated in another part of this report, and has been dwelt upon in former ones.

For further details of the returns for the year, reference is made to the accompanying tables.

E. A. BRACKETT,
F. W. PUTNAM,
E. H. LATHROP,
Commissioners on Inland Fisheries and Game.

EXPENDITURES OF COMMISSION.

Services,	$1,735 00	
Travelling and other expenses,	215 22	
		$1,950 22

EXPENSES.

Subscription to salmon-breeding station,		$400 00	
Labor,		201 40	
Edwin F. Hunt, services,	$160 00		
Edwin F. Hunt, expenses,	39 52		
		199 52	
Police boat,		175 00	
W. H. Proctor, assistance and expenses,		168 44	
W. H. Mears, services,		125 00	
Outfit for police boat,		102 65	
Printing,		98 37	
Labor at Lawrence fishway,		82 14	
Repairs to police boat,		76 20	
Rent of land, Winchester,		50 00	
Cans and strainer,		35 50	
Spawn, and expenses on same,		31 75	
Clerical services,		28 00	
Bread,		24 25	
Piping,		23 05	
Postage,		22 65	
Legal services,		10 00	
Plans,		5 00	
			1,858 92
Amount carried forward,			$3,809 14

Amount brought forward,			$3,809 14

Shad-Hatching at North Andover.

B. P. Chadwick, services,	$135 00		
B. P. Chadwick, expenses,	47 42		
		$182 42	
Labor,		192 60	
Rent of grounds, etc.,		100 00	
Twine and rope,		3 33	
			$478 35

Joint Hatchery at Livermore Falls.

E. B. Hodge, superintendent, services,		$408 32	
Assistant's services,		167 50	
Building hatchery,		200 00	
Fish meat,		39 11	
Rent,		25 00	
Hardware,		21 11	
Nets, etc.,		16 51	
Insurance,		11 87	
Teaming,		3 75	
Brook trout,		3 67	
			896 84
			$5,184 33

Boston, Dec. 3, 1888.

APPENDIX.

[A.]

LIST OF FISH COMMISSIONERS.

"Forest and Stream" presents its annual list of the Commissioners of Fisheries and fishery officers of the different Provinces, States and Territories of North America, revised and corrected to October 15, from direct correspondence. Those marked with a * have failed to answer, and the States so marked are taken from last year's list: —

The United States.

Col. Marshall McDonald, Commissioner, . . Washington, D. C.
Capt. J. W. Collins, Assistant in Charge of Fisheries Division.
Richard Rathbun, Assistant in Charge of Scientific Inquiry.

Alabama.

Col. D. R. Hundley, ... Madison.
Hon. Chas. S. G. Doster, ... Prattville.

Arizona.

J. J. Gosper, ... Prescott.
Richard Rule, ... Tombstone.
J. H. Taggart, Business Manager, . . . Yuma.

Arkansas.

H. H. Rottaken, President, ... Little Rock.
W. B. Worthen, Secretary, ... Little Rock.
J. W. Calloway, ... Little Rock.

This State has never made an appropriation for fish culture.

Dominion of Canada.

Hon. John Tilton, Deputy Minister of Fisheries, Ottawa.

Inspectors of Fisheries for the Dominion of Canada, 1888: W. H. Rogers, Amherst, N. S.; A. C. Bertram, North Sydney, C. B., N. S.; W. H. Venning, St. John, N. B.; Wm. Wakeham, Gaspé Basin, P. Q.; J. H. Duvar, Alberton, P. E. I.; Thomas Mowat, New Westminster, B. C.; Alex McQueen, Winnipeg, Man.

Officers in Charge of Fish-breeding Establishments: S. Wilmot, Superintendent of Fish Culture, Newcastle, Ont.; Chas. Wilmot, officer in charge, Newcastle hatchery, Ont.; Wm. Parker, Sandwich, Ont.; L. N. Catellier, Tadoussac, Q.; Philip Vibert, Gaspé, Q.; A. H. Moore, Magog, Q.; Alex Mowat, Restigouche, Matapedia, P. Q.; A. B. Wilmot, Bedford, N. S.; C. A. Farquharson, Sydney, N. S. Isaac Sheasgreen, Miramichi, N. B.; Charles McCluskey, St. John River, Grand Falls, N. B.; Henry Clark, Dunk River, P. E. I.; Thomas Mowat, B. C. hatchery, New Westminster, B. C.

CALIFORNIA.

Joseph Routier, ... Sacramento.
J. D. Harvey, ... Los Angeles.

Commissioner T. J. Sherwood resigned March 15, 1888.

COLORADO.

G. F. Whitehead, ... Denver.

CONNECTICUT.

Dr. Wm. M. Hudson, ... Hartford.
Robert G. Pike, ... Middletown.
James A. Bill, ... Lyme.

The State has no official superintendent, most of the hatching being done by Henry J. Fenton, Poquonnock.

DELAWARE.

Charles Schubert, ... Odessa.

GEORGIA.

J. H. Henderson, ... Atlanta.
Dr. H. H. Cary, Superintendent, . . . La Grange.

ILLINOIS.

N. K. Fairbank, President, ... Chicago.
S. P. Bartlett, ... Quincy.
Geo. Brenning, ... Centralia.

INDIANA.

Enos B. Reed, ... Indianapolis.

IOWA.

E. D. Carlton, ... Spirit Lake.
Ole Bjorenson, Superintendent.

KANSAS.

S. Fee, ... Wamego.

KENTUCKY.

Wm. Griffith, President, ... Louisville.
P. H. Darby, ... Princeton.
John B. Walker, ... Madisonville.
Hon. C. J. Walton, ... Munfordville.
Hon. John A. Steele, ... Midway.
W. C. Price, ... Danville.
Hon. J. M. Chambers, ... Independence.
A. H. Goble, ... Catlettsburg.
J. H. Mallory, ... Bowling Green.

MAINE.

E. M. Stilwell, ... Bangor.
Henry O. Stanley, ... Dixfield.
B. W. Counce, Sea and Shore Fisheries, . . Thomaston.

* MARYLAND.

Dr. E. W. Humphries, ... Salisbury.
G. W. Delawder, ... Oakland.

MASSACHUSETTS.

E. A. Brackett, ... Winchester.
F. W. Putnam, ... Cambridge.
E. H. Lathrop, ... Springfield.

MICHIGAN.

John H. Bissell, ... Detroit.
Herchel Whitaker, ... Detroit.
Joel C. Parker, M.D., ... Grand Rapids.
Walter D. Marks, Superintendent, . . . Paris.
George D. Mussey, Secretary, ... Detroit.
William A. Butler, Jr., Treasurer, . . . Detroit.

MINNESOTA.

William Bird, ... Fairmount.
Niles Carpenter, ... Rushford.
Robert Ormsby Sweeny, President, . . . St. Paul.
S. S. Watkins, Superintendent, ... Willow Brook, St. Paul.

MISSOURI.

H. M. Garlichs, Chairman, ... St. Joseph.
J. L. Smith, ... Jefferson City.
H. C. West, ... St. Louis.
A. P. Campbell, Secretary, ... St. Joseph.
Philip Kopplin, Jr., Superintendent, . . . St. Louis.
Elias Cottrill, Superintendent, ... St. Joseph.

NEBRASKA.

William L. May, ... Fremont.
R. R. Livingston, ... Plattsmouth.
B. E. B. Kennedy, ... Omaha.
M. E. O'Brien, Superintendent, ... South Bend.

* NEVADA.

W. M. Cary, ... Carson City.

NEW HAMPSHIRE.

George W. Riddle, ... Manchester.
Elliott B. Hodge, ... Plymouth.
John H. Kimball, ... Marlborough.
Elliott B. Hodge, Superintendent of Plymouth and Sunapee hatcheries, ... Plymouth.

NEW JERSEY.

William Wright, ... Newark.
Frank M. Ward, ... Newton.
J. R. Elkinton, ... Pennsgrove.

NEW YORK.

E. G. Blackford, President, ... New York.
Gen. R. U. Sherman, ... New Hartford.
William H. Bowman, ... Rochester.
A. S. Joline, ... Tottenville.
Henry Burden, ... Troy.
E. P. Doyle, Secretary, room 311, Potter Building, ... New York City.

Superintendents: Fred Mather, Cold Spring Harbor; Monroe A. Green, Caledonia; James H. Marks, Bloomingdale; E. L. Marks, Fulton Chain; and E. F. Boehm, Mill Creek.

Shell-fish Commission: E. G. Blackford, Commissioner; William G. Ford, Engineer; J. W. Merserau, Oyster Protector, 80 Fulton Market, New York.

NORTH CAROLINA.

William J. Griffin, Chairman,	Elizabeth City.
J. B. Watson,	Englehard.
William T. Caho,	Bayboro.

OHIO.

C. V. Osborn, President,	Dayton.
A. C. Williams, Secretary,	Chagrin Falls.
J. C. Hofer,	Bellaire.
John H. Law,	Cincinnati.
Hon. Emory D. Potter,	Toledo.
Henry Douglass, Superintendent,	Sandusky.
L. K. Buntain, Chief Warden,	Dayton.

OREGON.

F. C. Reed, President,	Clackamas.
E. P. Thompson,	Portland.
R. C. Campbell,	Ranier.

PENNSYLVANIA.

Henry C. Ford, President, 524 Walnut Street,	Philadelphia.
James V. Long, Corresponding Secretary, 75 Fifth Avenue,	Pittsburg.
H. C. Demuth, Secretary of Board,	Lancaster.
S. B. Stilwell,	Scranton.
A. S. Dickson,	Meadville.
W. L. Powell, Treasurer,	Harrisburg.
John P. Creveling, Superintendent,	Allentown.
William Buller, Superintendent,	Corry.

RHODE ISLAND.

John H. Barden, President,	Rockland.
Henry T. Root, Treasurer,	Providence.
William P. Morton, Secretary,	Johnston.

SOUTH CAROLINA.

Hon. A. P. Butler,	Columbia.

* TENNESSEE.

W. W. McDowell,	Memphis.
H. H. Sneed,	Chattanooga.
Edward D. Hicks,	Nashville.

UTAH.

A. Milton Musser,	Salt Lake City.

VERMONT.

Herbert Brainard, ... St. Albans.
F. H. Atherton, ... Waterbury.

VIRGINIA.

Dr. J. T. Wilkins, ... Bridgetown.

WEST VIRGINIA.

C. S. White, President, ... Romney.
F. J. Baxter, Treasurer, ... Sutton.
James H. Miller, Secretary, ... Hinton.

WISCONSIN.

The Governor, *ex officio*.
Philo Dunning, President, ... Madison.
C. L. Valentine, Secretary and Treasurer, . Janesville.
Mark Douglass, ... Melrose.
A. V. H. Carpenter . . . . . Milwaukee.
Calvert Spensley, ... Mineral Point.
E. S. Miner, ... Sturgeon Bay.
James Nevin, Superintendent, ... Madison.

WYOMING TERRITORY.

Louis Miller, ... Laramie.

[B.]

LIST OF PONDS LEASED

By the Commissioners on Inland Fisheries, under Authority given by Chap. 384, Sect. 9, of the Acts of 1869.

[During the past year leases of sixteen ponds have either expired by limitation or have been cancelled.]

1870.

Feb. 1. Waushakum Pond, in Framingham, to Sturtevant and others, 20 years.

April 1. Mendon Pond, in Mendon, to Leonard T. Wilson and another, 20 years.

Sept. 12. Baptist Lake, in Newton, to J. F. C. Hyde and others, 20 years.

1871.

April 17. Long Pond, in Falmouth, to Joshua S. Bowerman and three others, 20 years.

May 15. Pratt's Pond, in Upton, to D. W. Batcheller, 20 years.

Nov. 1. Punkapoag Pond, in Randolph and Canton, to Henry L. Pierce, 20 years.

1872.

Jan. 1. Sandy Pond, Forest Lake, or Flint's Pond, in Lincoln, to James L. Chapin and others, 20 years.

1873.

July 1. Little Sandy Pond, in Pembroke, to A. C. Brigham and others, 16 years.

1874.

March 1. Walden and White ponds, in Concord, to inhabitants of Concord, 15 years.

2. Upper Naumkeag Pond, in Ashburnham, to inhabitants of Ashburnham, 20 years.

April 1. Elder's Pond, in Lakeville, to inhabitants of Lakeville, 15 years.

1874.

April 20. North and South Podunk ponds, in Brookfield, to inhabitants of Brookfield, 15 years.

May 1. Maquan Pond, in Hanson, to the inhabitants of Hanson, 15 years.

20. Unchechewalom and Massapog ponds, to the inhabitants of Lunenburg, 20 years.

July 1. Hardy's Pond, in Waltham, to H. E. Priest and others, 15 years.

1. Hockomocko Pond, in Westborough, to L. N. Fairbanks and others, 15 years.

11. Mitchell's Pond, in Boxford, to R. M. Cross and others, 15 years.

11. Hazard's Pond, in Russell, to N. D. Parks and others, 20 years.

Oct. 20. Middleton Pond, in Middleton, to inhabitants of Middleton, 15 years.

1875.

Jan. 1. White and Goose ponds, in Chatham, to George W. Davis, 15 years.

March 1. Hood's Pond, in Ipswich and Topsfield, to inhabitants of Topsfield, 15 years.

April 1. Chauncy Pond, in Westborough, to inhabitants of Westborough, 15 years.

3. West's Pond, in Bolton, to J. D. Hurlburt and others, 15 years.

15. Gates Pond, in Berlin, to E. H. Hartshorn and others, 15 years

24. Pleasant Pond, in Wenham, to inhabitants of Wenham, 15 years.

May 1. Morse's Pond, in Needham, to Edmund M. Wood, 15 years.

1. Chilmark Pond, in Chilmark, to J. Nickerson and others, agents, 20 years.

July 1. Wedge Pond, in Winchester, to inhabitants of Winchester, 15 years.

1. Haggett's Pond, in Andover, to inhabitants of Andover, 20 years.

Aug. 1. Oyster Pond, in Edgartown, to J. H. Smith and others, 20 years.

9. Mystic (Upper) Pond, in Winchester, Medford and Arlington, to inhabitants of Winchester and Medford, 15 years.

Oct. 1. Little Chauncy and Solomon ponds, in Northborough, to inhabitants of Northborough, 15 years.

1876.

Feb. 1. Great Sandy Bottom Pond, in Pembroke, to inhabitants of Pembroke, 15 years.

March 1. Dennis Pond, in Yarmouth, to inhabitants of Yarmouth, 15 years.

1. Crystal Lake, in Wakefield, to Lyman H. Tasker and others, 15 years.

20. Lower Naumkeag Pond, in Ashburnham, to inhabitants of Ashburnham, 18 years.

28. Dennison Lake, in Winchendon, to inhabitants of Winchendon, 15 years.

28. Phillipston Pond, in Phillipston, to inhabitants of Phillipston, 20 years.

May 8. South-west Pond, in Athol, to Adin H. Smith and others, 15 years.

June 10. Dug Pond, in Natick, to W. P. Bigelow and others, 15 years.

Oct. 1. Farm and Learned's Pond, in Framingham, to inhabitants of Framingham, 15 years.

1. Whitney's Pond, in Wrentham, to inhabitants of Wrentham, 15 years.

1. Little Pond, in Falmouth, to George H. Davis, 15 years.

1877.

March 1. Nine-mile Pond, in Wilbraham, to inhabitants of Wilbraham, 15 years.

15. Pentucket and Rock ponds, in Georgetown, to inhabitants of Georgetown, 15 years.

Aug. 10. Onota Lake, in Pittsfield, to William H. Murray and others, 15 years.

Oct. 1. Fort, Great Spectacle and Little Spectacle ponds, in Lancaster, to inhabitants of Lancaster, 20 years.

Nov. 1. Tispaquin Pond, in Middleborough, to Abishai Miller, 15 years.

1878.

Jan. 1. Sniptuit, Long, Snow, and Mary's ponds, in Rochester, to inhabitants of Rochester, 15 years.

March 16. Asnaconcomic Pond, in Hubbardston, to Amory Jewett, Jr., 15 years.

May 1. Bear Hill Pond and Hall Pond, in Harvard, to inhabitants of Harvard, 15 years.

Oct. 1. Ell Pond, in Melrose, to J. A. Barrett and others, 15 years.

1879.

July 1. Silver Lake, in Wilmington, to inhabitants of Wilmington, 10 years.

1879.

July 1. Fresh Pond, in Falmouth, to Thomas H. Lawrence, 20 years.

Oct. 1. Pomp's Pond, in Andover, to inhabitants of Andover, 15 years.

Nov. 1. Lake Quinapowitt, in Wakefield, to inhabitants of Wakefield, 14 years.

1880.

March 1. Lake Winthrop, in Holliston, to inhabitants of Holliston, 15 years.

15. Massapoag Pond, in Sharon, to inhabitants of Sharon, 10 years.

May 1. Tisbury Great Pond, in Tisbury, to Allen Look and others, 10 years.

June 1. Indian Pond, in Kingston, to inhabitants of Kingston, 10 years.

1. Jordan Pond, in Shrewsbury, to inhabitants of Shrewsbury, 15 years.

July 1. Swan and Martin's ponds, in North Reading, to inhabitants of North Reading, 15 years.

Sept. 1. Herring Pond, in Eastham, to William H. Nickerson, 10 years.

Dec. 24. Chadwick's Pond, in Bradford and Boxford, to town of Bradford, 10 years.

1881.

Jan. 1. Great and Job's Neck ponds, in Edgartown, to Amoz Smith and others, 15 years.

April 1. Long Pond, in Blandford, to Samuel A. Bartholomew and another, 15 years.

May 2. Nonesuch Pond, in Weston and Natick, to W. A. Bullard and others, 15 years.

1882.

March 1. Blair's Pond, in Blandford, to Curtis M. Blair and another, 15 years.

April 1. Ward Pond, *alias* Wightman Pond, in Ashburnham, to Herbert F. Rockwood and another, 15 years.

May 1. Horn Pond, in Woburn, to inhabitants of Woburn, 15 years.

June 1. Wickaboag Pond, in West Brookfield, to inhabitants of West Brookfield, 15 years.

1883.

April 6. Fresh Pond, in Tisbury, to Allen Look and others, 15 years.

23. Keyes Pond, in Westford, to M. H. A. Evans, 15 years.

May 7. Singletary Pond, in Sutton and Millbury, to towns of Sutton and Millbury, 15 years.

May 7. The Great Pond, in Ashfield, to town of Ashfield, 15 years.

July 1. Lake Buell, in Monterey and New Marlborough, to town of New Marlborough, 10 years.

1884.

June 1. Bald Pate, Four-mile and Stiles ponds, in Boxford, to inhabitants of Boxford, 10 years.

July 15. Asneybunskeit Pond, in Paxton, to inhabitants of Paxton, 10 years.

15. Center Pond, in Dennis, to inhabitants of Becket, 10 years.

15. Buckmaster Pond, in Dedham, to Francis Soule and others, 10 years.

15. Fresh Pond, in Dennis, to inhabitants of Dennis, 10 years.

17. Farm Pond, in Cottage City, to John C. Hamblin and others, 15 years.

18. Mashpee, Great and Wakeley ponds, in Mashpee, to inhabitants of Mashpee, 10 years.

Aug. 30. Sand Pond, in Ayer, to inhabitants of Ayer, 15 years.

Sept. 5. Great Pond, in North Andover, to inhabitants of North Andover, 15 years.

[C.]

LEGISLATION.

[Chap. 292.]

AN ACT TO AMEND CHAPTER TWO HUNDRED AND SEVENTY-SIX OF THE ACTS OF THE YEAR EIGHTEEN HUNDRED AND EIGHTY-SIX, BEING AN ACT FOR THE BETTER PRESERVATION OF BIRDS AND GAME.

Be it enacted, etc., as follows:

Section one of chapter two hundred and seventy-six of the acts of the year eighteen hundred and eighty-six is hereby amended so that it shall read as follows: — *Section 1.* Whoever takes or kills a pinnated grouse at any time, or a woodcock between the first day of December and the first day of September, or a ruffed grouse, commonly called partridge, between the first day of December and the first day of September, or a quail between the first day of January and the fifteenth day of October, or a wood or summer duck, black duck or teal, or any of the so-called duck species, between the fifteenth day of April and first day of September, shall be punished by a fine of twenty dollars for every bird so taken or killed. [*Approved May 3, 1888.*

[Chap. 126.]

AN ACT FOR THE PROTECTION OF THE SHAD FISHERIES IN MILL RIVER AND ITS TRIBUTARIES IN THE TOWN OF ESSEX.

Be it enacted, etc., as follows:

SECTION 1. No person shall take, catch or cause to be taken or caught, by any means whatsoever, in Mill river or any of its tributaries in the town of Essex, or the ponds or connecting streams out of which said river and tributaries may flow, any of the fish called shad, until the first day of July in the year eighteen hundred and ninety-two.

SECT. 2. The owners and proprietors of all dams on said Mill river and its tributaries are hereby required to maintain fishways

over or around said dams, and these fishways shall be subject to all the powers given to the commissioners of inland fisheries under the laws of the Commonwealth.

Sect. 3. Any person offending against the provision of section one of this act shall forfeit for each shad taken, caught or destroyed, not less than five nor more than ten dollars.

Sect. 4. All fines and penalties for violation of this act, with costs, may be recovered by complaint, or action of tort, in any court of competent jurisdiction in the county of Essex.

Sect. 5. This act shall take effect upon its passage. [*Approved March 13, 1888.*

[Chap. 198.]

AN ACT AUTHORIZING THE PLANTING OF CLAMS IN AND AROUND THE SHORES OF ESSEX.

Be it enacted, etc., as follows:

Section 1. The selectmen of the town of Essex may by writing under their hands grant a license for such a term of years, not exceeding five, as they in their discretion may deem necessary and the public good requires, to any inhabitant of said town, to plant, cultivate and dig clams upon and in any flats and creeks in said town now unproductive thereof, not exceeding two acres to any one person, and not impairing the private rights of any person.

Sect. 2. Such license shall describe by metes and bounds the flats and creeks so appropriated and shall be recorded by the town clerk before it shall have any force, and the person licensed shall pay to the selectmen for the use of said town two dollars and to the clerk fifty cents.

Sect. 3. The person so licensed and his heirs and assigns shall for the purposes aforesaid have the exclusive use of the flats and creeks described in the license during the term specified therein, and may in an action of tort recover treble damages of any person, who, without his or their consent digs or takes clams from such flats or creeks during the continuance of the license.

Sect. 4. Said town of Essex at any legal meeting called for the purpose may make such by-laws, not repugnant to the laws of the Commonwealth, as they may from time to time deem expedient to protect and preserve the shell fisheries within said town.

Sect. 5. Whoever takes any shell-fish from within the waters of said town of Essex in violation of the by-laws established by it or of the provisions of this act shall for every offence pay a fine of

not less than five nor more than ten dollars and costs of prosecution, and one dollar for every bushel of shell-fish so taken.

Sect. 6. This act shall take effect upon its passage. [*Approved April 9, 1888.*

[Chap. 202.]

An Act authorizing the planting of clams in and around the shores of Winthrop.

Be it enacted, etc., as follows:

Section 1. The selectmen of the town of Winthrop may by writing under their hands grant a license for such a term of years, not exceeding five, as they in their discretion may deem necessary and the public good requires, to any inhabitant of said town to plant, cultivate and dig clams upon and in any flats and creeks in said town now unproductive thereof, not exceeding two acres to any one person, and not impairing the private rights of any person, and in no case within five hundred feet of high water mark.

Sect. 2. Such license shall describe by metes and bounds the flats and creeks so appropriated and shall be recorded by the town clerk before it shall have any force, and the person licensed shall pay to the selectmen for the use of said town two dollars and to the clerk fifty cents.

Sect. 3. The person so licensed and his heirs and assigns shall for the purposes aforesaid have the exclusive use of the flats and creeks described in the license during the time specified therein, and may in an action of tort recover treble damages of any person, who, without his or their consent digs or takes clams from such flats or creeks during the continuance of the license.

Sect. 4. Whoever digs or takes any clams from any flats or creeks described in any license granted as aforesaid during the continuance thereof without the consent of the person so licensed shall for every offence pay a fine of not less than five nor more than ten dollars and costs of prosecution, and one dollar for every bushel of clams so taken.

Sect. 5. This act shall take effect upon its passage. [*Approved April 9, 1888.*

[Chap. 223.]

An Act relating to the taking of scallops in the head waters of Buzzard's bay.

Be it enacted, etc., as follows:

Section 1. The selectmen of the towns of Wareham and Bourne, respectively, may grant permits in writing to take scallops from the waters within the limits of their respective towns in such

quantities, at such time or times, within one year, by such methods and under such regulations as may be expressed in their permit, and they may charge and receive therefore, in behalf of and for the use of their said towns, respectively, such sums as they may deem proper. But every inhabitant of either of said towns may without such permit take scallops from the waters of the town in which he is an inhabitant, for the use of his family, from the first day of October to the first day of April, not exceeding in any week three bushels including the shells; and any inhabitant of the Commonwealth may take from the waters of said town scallops, for the use of his family, from the first day of October to the first day of April, not exceeding in any week three bushels including the shells, having first obtained a permit so to do from the selectmen of the town in which said scallops are to be taken.

Sect. 2. No person shall take any scallops from the waters within either of said towns without a written permit from the selectmen thereof, except as provided in the preceding section. Whosoever violates the provisions of this act shall be punished by a fine of not less than twenty or more than one hundred dollars, or imprisoned in the house of correction not less than thirty days nor more than six months, or by both such fine and imprisonment. One-half of the fine shall be paid to the complainant and the other half to the county within which the offence was committed.

Sect. 3. Nothing in this act shall be construed to effect any acts relating to the oyster fishery, or to impair the private rights of any person, or in any way to limit or effect the provisions of law for the protection of fisheries other than the scallop fishery, or to permit the taking of scallops upon any oyster grounds or beds other than public grounds or beds.

Sect. 4. District courts and trial justices shall have concurrent jurisdiction with the superior court of all offences under this act.

Sect. 5. Section three of chapter two hundred and twenty of the acts of the year eighteen hundred and eighty-five, and all acts and parts of acts inconsistent herewith are hereby repealed. [*Approved April 12, 1888.*

[Chap. 276.]

An Act to limit the time within which trout, land-locked salmon and lake trout may be taken in Berkshire county.

Be it enacted, etc., as follows:

Section 1. Chapter one hundred and seventy-one of the acts of the year eighteen hundred and eighty-four is hereby amended

by adding at the end of the first section the words : — except in the county of Berkshire, when such time shall be between the first day of August and the first day of May, — so that the section as amended shall read as follows : — *Section 1.* The time within which any person is forbidden to take, sell, offer or expose for sale or to have in his possession a trout, land-locked salmon, or lake trout, by sections fifty-one and fifty-three of chapter ninety-one of the Public Statutes, shall be between the first day of September and the first day of April, except in the county of Berkshire, when such time shall be between the first day of August and the first day of May.

Sect. 2. This act shall take effect upon the first day of August next. [*Approved April 30, 1888.*

[Chap. 331.]

An Act authorizing towns to regulate the catching of pickerel.

Be it enacted, etc., as follows :

Section 1. Whoever takes or catches any pickerel in any river, stream or pond in any other manner than by artificially or naturally baited hook and hand line shall forfeit one dollar for every pickerel so taken ; but this act shall not extend to any town unless adopted thereby.

Sect. 2. All prosecutions under this act shall be instituted within sixty days from the time of committing the offence.

Sect. 3. All acts or parts of acts inconsistent with this chapter are hereby repealed. [*Approved May 10, 1888.*

[D.]

LOBSTER TRAPS AND ESTIMATED CATCH DURING 1888.

Town or Place.	Proprietor.	No. of Traps.	Estimated Catch of Lobsters.
Rockport,	Benj. Hodgkins,	60	5,000
"	Wm. Stillman,	50	5,000
"	Charles Wendall,	45	4,000
"	Wm. Winn,	100	7,000
"	Samuel Perkins,	100	7,000
"	Mike McGowen,	100	7,000
"	Mike Knowlton,	40	4,000
"	Wm. Knights,	50	5,000
"	William Day,	45	4,000
Milk Island,	I. B. Parsons,	80	6,000
Rockport,	Ferdinand Norwood,	35	4,000
"	John Tarr,	100	7,000
"	Harvey Poole,	50	5,000
Pigeon Cove,	Christopher Morgan,	100	7,000
" "	Edward Lewis,	75	6,000
" "	Amos Lufkin,	50	5,000
" "	Jabez Kendall,	50	5,000
" "	Fred Johnson,	50	5,000
" "	Edward Lewis, Jr.,	75	6,000
Polly Cove,	A. G. Woodbury,	50	5,000
" "	G. H. Woodbury,	50	5,000
" "	Abner Bates,	50	5,000
" "	Oliver Griffin,	50	5,000
Ipswich,	Rust & Grant,	40	1,500
"	Atkinson Bros.,	18	700
Annisquam,	William Rowe,	25	2,000
Bay View,	John Butler,	50	4,000
"	Cyrus Lane,	50	4,000
"	Allan Robinson,	85	6,000
"	William Sargent,	100	7,000
"	Alex. Sargent,	100	7,000
Lanesville,	Elbridge Sargent,	30	3,500
"	John Roberts,	60	5,000
"	Ezra Harding,	90	6,000
"	Elias Harding,	50	4,000
"	A. W. Riley,	90	6,000
"	W. H. Sargent,	50	4,000
"	Simeon Saunders,	20	2,000
"	William Saunders,	40	4,000
"	J. J. Woodbury,	90	6,000

Lobster Traps and Estimated Catch during 1888 — Continued.

Town or Place.	Proprietor.	No. of Traps.	Estimated Catch of Lobsters.
Lanesville,	James Duley,	30	3,500
"	Geo. Sargent,	50	4,000
East Gloucester,	Joseph Douglass,	50	5,000
" "	Prindel Parsons,	50	5,000
" "	Robert Douglass,	50	5,000
" "	Edward Parsons,	60	5,000
" "	Nelson Rowe,	50	5,000
" "	Edward Witham,	30	3,000
" "	Joseph Parsons,	50	5,000
" "	Erwin Parsons,	50	5,000
West Gloucester,	Daniel Webber,	20	2,000
" "	Joseph Burgess,	20	2,000
" "	Elbridge Russ,	75	6,000
" "	Chas. Merchant,	20	2,000
" "	John Parsons,	20	2,000
" "	Chas. Parsons,	20	2,000
" "	D. S. Parsons,	30	3,000
" "	Alden Parsons,	75	6,000
" "	Fred Parsons,	40	3,500
Magnolia,	William Douglass,	50	4,000
"	Frank Story,	40	3,500
"	Henry Story,	40	3,500
"	John Burnham,	50	4,500
"	John Lycett,	40	3,000
"	J. B. Knowlton,	30	3,000
"	Augustus Story,	50	4,500
Manchester,	L. O. Sargent,	50	5,000
"	Chas. Sargent,	50	5,000
"	Chandler Lewis,	50	6,000
"	Warren Heath,	40	5,000
"	J. G. Heath,	40	4,000
Beverly,	Geo. Fairfield,	50	4,500
"	W. G. Shaw,	50	4,000
"	Geo. Saley,	50	5,000
"	J. H. Barter,	50	6,000
"	Chas. Foster,	50	4,000
"	C. H. Very,	100	6,500
Salem,	John Clark,	50	4,000
"	Chas. Berry,	40	5,000
"	James Lungren,	40	6,000
"	W. P. Foye,	60	5,000
"	T. J. Sargent,	50	3,500
"	N. P. Berry,	50	4,500
"	T. F. Hogan,	60	5,000
Marblehead,	J. H. Atkins,	100	7,000
"	B. F. Stevens,	90	6,000
"	Edward Curtis,	55	4,000
"	John Smithers,	30	3,000
"	John Florence,	40	3,500
"	William Dennis,	40	3,000
"	John Adams,	40	4,000
"	John Stacey,	40	4,000
"	J. S. Stone,	40	4,000

Lobster Traps and Estimated Catch during 1888 — Continued.

Town or Place.	Proprietor.	No. of Traps.	Estimated Catch of Lobsters.
Swampscott,	T. E. Stone,	100	6,000
"	C. E. Howes,	35	4,000
"	Lorenzi Woodbury,	50	4,000
"	Noah Kimball,	50	3,000
"	Wm. Segar,	35	3,000
"	Wm. Newcomb,	50	7,000
"	Wm. H. Thomas,	40	4,000
"	B. B. Thomas,	30	2,000
"	Zachariah Phillips,	40	3,000
"	F. H. Horten,	50	6,000
"	G. A. Horten,	50	6,000
"	C. O. Stone,	30	3,000
"	C. S. Stone,	30	3,000
"	Nathaniel Pierce,	30	4,000
"	Henry Harding,	30	3,000
"	Albert Atwood,	25	2,500
Nahant,	C. E. Gove,	80	6,000
"	G. W. Taylor,	50	5,000
"	Chas. Taylor,	35	3,000
"	J. B. Johnson,	70	5,000
Winthrop,	H. L. Wells,	100	7,000
"	John Wadsworth,	80	6,000
"	G. W. Wyman,	100	7,000
"	J. W. Wyman,	90	6,000
"	W. E. Wyman,	90	6,000
"	H. G. Wyman,	70	5,000
"	Augustus Wyman,	70	5,000
"	—— Burns,	70	5,000
"	Monroe Trowodgy,	100	7,000
"	Vial Trowodgy,	100	7,000
"	Willey Belcher,	100	7,000
"	Alva Belcher,	70	5,000
"	John Flannigan,	60	4,000
"	G. L. Lamson,	60	3,000
"	S. B. Belcher,	60	3,500
"	John Belcher,	60	4,000
"	John Stevenson,	60	4,000
"	Antoine ——,	100	7,000
"	Henry Baker,	50	3,000
Long Island,	Joe Safine,	150	7,000
" "	Tony Francis,	160	7,000
" "	Tony Shute,	160	7,000
" "	Muche Safron,	100	6,000
" "	Jophin Phiraro,	175	8,000
" "	Tony Phiraro,	140	7,000
" "	Andrie Phiraro,	65	4,000
" "	John Loche,	200	8,000
" "	Tony Silva,	75	4,000
" "	P. Lirelia,	175	8,000
" "	Joseph Rodgers,	100	6,000
" "	Frank Lewis,	100	6,000
Green Island,	—— Pickering,	50	4,000
Brewster Island,	Wm. Barber,	50	4,000

Lobster Traps and Estimated Catch during 1888 — Continued.

Town or Place.	Proprietor.	No. of Traps.	Estimated Catch of Lobsters.
Brewster Island,	James Turner,	50	4,000
Peddick's Island,	Alfonzo Cleverly,	75	5,000
"	Amber Cleverly,	75	5,000
Hull,	William Dean,	100	6,000
"	Francis James,	80	5,500
"	Rinea James,	80	5,500
"	Wm. James,	100	6,000
"	John Read,	75	5,000
"	Daniel Read,	60	5,000
"	Eugene Mitchel,	80	5,500
"	Daniel Souther,	80	5,500
"	S. H. Litchfield,	75	5,000
"	G. H. Souther,	75	5,000
"	Daniel McDonough,	80	5,500
"	John Smith,	80	5,500
"	Frederic Smith,	80	5,500
"	Alonzo Mitchel,	75	5,000
"	J. L. Mitchel,	75	5,000
"	Webster Mitchel,	75	5,000
"	W. B. Mitchel,	75	5,000
"	J. C. Augustus,	80	5,500
"	Geo. Augustus,	80	5,500
"	Eben Pope,	75	5,000
"	Andrew Pope,	80	5,500
"	B. F. Pope,	75	5,000
"	Geo. Pope,	75	5,000
"	Andrew Galiano,	75	5,000
"	Lewis Galiano,	75	5,000
"	Alfred Galiano,	75	5,000
Nantasket,	Benj. Atwood,	100	4,000
"	John Johnson,	100	4,000
"	H. L. Leavett,	40	2,000
"	Henry Hatch,	25	1,500
"	Chas. Bates,	60	3,000
"	Carl Place,	20	1,500
"	Chas. Wiltier,	40	2,000
"	Henry Bates,	30	1,000
Cohasset,	Robert Ainslie,	50	3,000
"	Manuel Vandura,	40	3,000
"	John Grassie,	40	3,500
"	Joseph Vandura,	40	3,500
"	John Ansley,	40	3,000
"	Antoine Sydney,	50	3,000
"	Southward Pratt,	50	3,500
"	Jerry McCarty,	50	3,000
"	Barney Rooney,	50	3,500
"	Manuel Cadose,	50	3,500
"	A. H. Pouty,	30	2,000
Scituate,	L. S. Bonney,	100	6,000
"	Geo. Edson,	80	5,500
"	Robert O'Herne,	70	5,000
"	Thomas Dwyer,	70	5,000
"	William Duffy,	40	3,000

Lobster Traps and Estimated Catch during 1888 — Continued.

Town or Place.	Proprietor.	No. of Traps.	Estimated Catch of Lobsters.
Scituate,	Patrick Mulherne,	80	5,500
"	John Welsh,	60	4,000
"	John Faloon,	100	6,000
"	John Barry,	40	3,000
"	Edward Graham,	70	5,000
"	John Conroy,	40	3,000
"	Dennis McCarty,	30	3,000
"	Daniel Duffy,	60	4,000
"	Wm. Ward,	90	5,500
"	Daniel Ward,	90	5,500
"	Maurice O'Herne,	65	5,000
"	Jerry Dwyer,	70	5,000
Marshfield,	Chas. Tolman,	60	4,000
"	Wm. Tolman,	60	4,000
"	Lyman Sayers,	120	6,000
"	Thomas Pezzy,	100	5,500
"	Decenti Gay,	150	7,000
"	Fred Keene,	60	4,000
"	George Samson,	60	4,000
"	Chas. Peterson,	50	3,500
"	Henry Taylor,	50	3,500
"	Henry Phillips,	100	5,000
"	Isaac Walker,	100	5,000
"	—— Cate,	50	3,500
Plymouth,	Benj. Manter,	50	7,000
"	Joseph Thurston,	50	7,000
"	Winslow Ranson,	50	7,000
"	Daniel Burgess,	50	7,000
"	Daniel Burgess, 2d,	50	7,000
"	Frank Wadsworth,	50	7,000
"	Chas. Peterson,	60	8,000
"	Ellis Peterson,	40	6,000
"	Lemuel Marsh,	50	7,000
"	Oscar Marsh,	50	7,000
"	—— Marsh,	50	7,000
"	B. F. Hodgiss,	45	6,000
"	Frank Rogers,	50	7,000
"	Augustus Rogers,	160	8,000
"	Levi Thurston,	50	7,000
"	David Pierce,	40	6,000
"	Chas. Pierce,	65	8,000
"	Geo. Atwell,	55	8,000
"	W. H. Finney,	50	7,000
"	H. L. Sampson,	40	6,000
"	Albert Raymond,	50	7,000
"	Adelbert Finney,	50	7,000
"	Geo. Manter,	50	7,000
"	Geo. Kennison,	50	7,000
"	Frank Peterson,	50	7,000
"	Geo. Griswold,	75	9,000
"	J. B. Bartlett,	50	7,000
"	Edwin Bartlett,	50	7,000
"	Geo. Holms,	50	7,000

Lobster Traps and Estimated Catch during 1888 — Continued.

Town or Place.	Proprietor.	No. of Traps.	Estimated Catch of Lobsters.
Plymouth,	Cornelius Briggs,	60	8,000
"	Laban Briggs,	50	7,000
"	J. B. Briggs,	50	7,000
"	Ezra Pierce,	60	8,000
"	Silas Valor,	50	7,000
"	Solomon Valor,	50	7,000
"	Hosea Bartlett,	40	6,000
"	Edward Rawson,	50	7,000
"	Isaac Valor,	75	9,000
"	Geo. Freeman,	50	7,000
Orleans,	Willis Snow,	50	3,000
Truro,	J. H. Rich,	50	3,000
No. Truro,	Chas. Collins,	50	3,000
Provincetown,	W. G. Loring,	60	4,000
"	Henry Atwood,	50	3,500
"	David Newcomb,	50	3,000
"	Alfred Mayo,	50	3,000
"	William Cowing,	50	3,000
"	George Lewis,	50	3,000
"	A. D. Snow,	50	3,000
Chatham,	Otis Eldredge,	100	4,000
"	Elias Gould,	50	2,500
"	Nelson Bloomer,	80	3,000
"	Francisco Bloomer,	100	4,000
"	Seymour Patterson,	80	3,000
"	Harrison Gould,	40	2,000
"	Elmer Mayo,	100	4,000
"	Edmund Ryder,	110	4,000
"	Joseph Bloomer,	100	4,000
"	Joseph Mayo,	80	3,000
"	Seth Mallows,	50	2,500
"	Geo. Bloomer,	125	4,500
"	Everett Robbins,	90	4,000
"	Virenus Hamilton,	90	3,500
"	Reuben Bearse,	90	4,000
"	W. R, Bloomer,	80	3,000
"	W. A. Bloomer,	115	4,500
"	Stephen Gould,	50	2,500
"	Jeremiah Eldredge,	50	2,500
"	Francis Hitchings,	75	3,000
"	Wilbur Patterson,	45	2,000
"	Thomas Holway,	75	3,000
"	James Smith,	75	3,000
"	Geo. Eldredge,	60	3,000
"	Oscar Gould,	40	2,000
Chathamport,	F. J. Nickerson,	200	6,000
Woods Holl,	C. J. Grinnell,	30	3,000
" "	O. C. Grinnell,	30	3,000
Mattapoisett,	Lilliburn Hiller,	100	3,000
"	E. B. Hiller,	100	5,000
"	W. L. Richmond,	50	4,000
Fairhaven,	Albert Swain,	50	4,000
"	C. C. Sherman,	50	4,000

Lobster Traps and Estimated Catch during 1888 — Continued.

Town or Place.	Proprietor.	No. of Traps.	Estimated Catch of Lobsters.
New Bedford,	Lamingo Antonio,	30	3,000
" "	Geo. Taber,	30	3,000
" "	Joseph Sylbera,	30	3,000
Dartmouth,	Benj. Queripel,	100	6,000
Westport,	E. B. Gifford,	60	4,000
"	G. A. Gifford,	60	3,500
"	G. E. Gifford,	50	3,000
"	T. J. Brightman,	70	4,000
Gosnold,	I. H. Tilton,	30	4,000
"	A. P. Tilton,	30	4,000
"	Ahira Lewis,	30	4,000
"	O. H. Stetson,	30	4,000
"	Russel Rotch,	30	4,000
"	Everett Wardell,	30	4,000
"	C. F. Stranger,	30	4,000
"	Eugene Brightman,	30	4,000
"	J. J. Veeder,	30	4,000
"	Timothy Aiken,	30	4,000
"	Timothy Aiken, Jr.,	30	4,000
"	Cuttyhunk Club,	60	5,000
Tisbury,	Charles Merry,	30	3,500
"	James Tilton,	30	3,000
Nantucket,	Erastus Chapel,	30	3,000
"	Arthur Barrett,	30	3,000
"	Andrew Broods,	30	3,500
"	Chas. Brooks,	30	3,000
"	Thomas Lewis,	30	3,500
"	J. P. Gardner,	30	3,500
"	William Norcross,	30	3,500
"	Valentine Small,	30	3,500
"	George Fisher,	30	3,500
No Man's Land,	Hiram Luce,	40	2,000
" "	Zadoc Cottle,	60	2,500
" "	Elsworth Tilton,	30	1,300
" "	Frank Cottle,	60	2,500
" "	Welcome Tilton,	50	1,500
" "	George Butler,	40	1,800
" "	Axel Kruse,	40	1,500
Gay Head,	C. H. Ryan,	30	4,000
"	Peter Johnson,	30	4,000
"	J. H. Foster,	30	4,000
"	Hiram Poole,	20	1,000
"	Onslow Stuart,	30	1,400
"	Rodney Reed,	40	1,600
"	Albert Reed,	30	1,200
"	Cyrus C. Look,	30	1,100
"	Lindley W. Mayhew,	40	1,500
"	Jas. A. Mayhew,	30	1,000
"	Anderson Poole,	20	3,000
"	Lyman E. Cottle,	30	1,500
"	Wynn Vincent,	40	1,800
"	Freeman Smith,	30	900
"	William Mayhew,	30	450

Lobster Traps and Estimated Catch during 1888 — Concluded.

Town or Place.	Proprietor.	No. of Traps.	Estimated Catch of Lobsters.
Gay Head, . . .	Hilliard Mayhew, .	30	456
Menemsha Creek, .	Clarence Cleaveland, .	30	1,200
" " .	Luther Atheorn, . .	30	1,000
" " .	Jos. Tilton, . . .	25	450
" " .	Franklin Tilton, . .	25	200
" " .	W. B. Luce, . .	20	200
" " .	Edward Mayhew, .	12	200
" " .	F. A. Look, . . .	15	450
" " .	Jas. Look, . . .	15	450
Total, . . .	367 men	21,418	1,740,850

At the average price of nine cents each, the value of estimated catch was $156,676.50.

Respectfully submitted,

Wm. H. Proctor, *District Police.*

[E.]

TABLES SHOWING RETURNS OF WEIRS, GILL-NETS AND SEINES.

TABLE I.—POUNDS AND WEIRS.—*Showing*

TOWN.	PROPRIETOR.	Salmon.	Shad.	Alewives.	Sea Herring.
Gloucester,	John G. & E. W. Heath,	2	100	1,450	167,050
Manchester,	Alphonse Tarr,	16	529	–	873,078
Salem,	Thomas & William Neville (gill-net fishery included),	–	–	–	98,900
Dennis,	Zenas H. Baker,	–	50	7,134	4
"	Anthony T. Chase,	–	–	8,000	6,400
"	William Crowell,	–	–	–	–
East Dennis,	Sears & Brother,	2	3	29,700	403
"	James F. Burgess (pound?),	1	–	–	–
Dennisport,	Thatcher, Kelley & Sears,	–	32	47,158	–
Brewster,	James Eldridge,	–	–	–	–
"	Freeman, Atwood & Co.,	1	242	–	–
East Brewster,	Neils Nelson (pound?),	1	154	–	10,000
Wellfleet,	W. F. Pierce,	–	20	1,583	25,622
Truro,	Atkins, Hughes and others,	–	575	75,400	2,064,265
"	P. L. Paine,	10	187	3,900	148,710
"	R. A. Ryder,	–	–	–	95,000
"	R. A. Rich,	8	39	–	–
"	S. B. Atwood,	–	440	4,565	291,133
"	S. F. Hardy,	–	5	–	81,775
"	S. B. Rich,	–	–	–	667,000
Provincetown,	S. T. & L. Nickerson,	–	–	–	494,000
"	Isaac B. Lewis,	–	–	200	59,490
"	Crowell Brothers,	–	–	–	399
"	T. K. Paine, Agent,	–	–	–	468,839
"	Henry J. Lewis,	–	470	–	13,075
"	E. T. Starr,	–	–	–	–
"	Solomon Bangs,	4	8	2,119	198,917
Eastham,	Peter Higgins,	–	16	–	19,321
"	W. T. Horton,	–	–	–	11,800
"	I. H. Horton & Co.,	–	–	50	600
Chatham,	S. W. Gould & Co.,	–	1,360	62,087	119,570
"	Reed, Loveland & Co.,	–	18,636	122,342	64,200
"	Andrew Harding & Co. (including seine),	–	472	7,903	26,150
"	Alpheus Mayo,	–	68	11,470	–
"	Benj. Mallows,	9	4,586	–	312,375
"	S. F. Bearse & Co.,	–	560	13,178	–
"	S. S. Ellis,	3	2,270	27,650	263,850
South Harwich,	Cyrus Nickerson,	–	266	2,674	39,671
Harwichport,	T. B. Baker & Co.,	–	3,025	–	–
Falmouth,	John Rogers (2 pounds),	–	87	162,258	–
"	P. M. Stuart,	–	69	10,720	–
"	Peter Wainwright,	–	–	225	–
"	Isaiah Spindle & Co.,	–	38	15,037	247
Mattapoisett,	Joseph J. Nye,	–	–	4,693	–
"	Jerome B. Dunn,	–	4	15,758	–
"	Lilburne Hiller,	–	–	1,937	2,670
"	W. A. Gammons,	1	4	20,279	–
"	A. B. Bowman,	–	–	3,274	–
Fairhaven,	C. H. Pease & Co. (2 pounds),	–	14,040	59,893	–
"	Ebenezer Mott,	–	2	7,709	–
"	F. W. Pease & Co.,	–	148	21,727	–
"	George L. Hiller (3 pounds),	–	7	23,906	–
"	S. T. Dunn & Son (2 pounds),	–	3	27,483	–
"	D. C. Potter,	–	–	7,878	–
"	George R. Wixon (2 pounds),	–	1	–	–
"	Daniel W. Deane,	–	3	2,259	4,419
Gosnold,	T. Atkins, Jr. (2 pounds),	–	–	4,950	–
"	Alonzo B. Veeder & Co.,	–	–	–	–
"	Frederick A. Veeder & Co.,	–	35	6,710	–
"	Charles C. Church,	19	43	10,680	–
"	John P. Holmes,	–	–	2,630	–

the Catch of each during the Year 1888.

Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
26,262	5	–	60	38,345	8	17	41	383	–	9,757
–	7	1,767	2	121,464	35	76	1,247	929	6	67,871
–	–	–	–	19,486	–	–	35	–	–	16,800
57	1	–	–	2,356	–	239	14	1,216	52	1,615
–	–	–	–	104,567	–	–	230	–	–	–
–	–	–	–	60,000	–	–	750	750	–	–
–	–	–	–	73,855	–	32	–	92	–	–
2	–	–	2	9,729	–	197	2	350	–	104
24	8	7	17	4	–	42	3	3,330	–	402
–	–	–	–	1,429	–	71	–	–	–	–
–	7	–	–	6,087	–	681	86	72	192	–
21,501	–	–	–	3,777	–	472	180	–	–	900
11,650	–	–	–	453	–	9,940	98	1,000	–	–
510,000	–	32	40	713,227	–	572	3,005	25,097	54	10,017
59,379	–	25	–	218,615	–	156	400	30,146	–	9,594
3	–	4	–	271,229	–	42	210	15,288	–	20,312
–	–	–	–	–	–	–	–	–	–	42,537
–	–	11	–	324,774	1	201	279	39,512	3	1,001,851
12,450	–	–	2	187,595	–	–	3	7,200	–	15,545
173,000	–	–	–	40,830	–	–	–	–	–	518,400
–	–	–	–	27,855	6	–	–	–	–	32
1,200	–	–	–	1,941	–	9	2	26,375	25	4,030
122	–	–	–	128,045	–	–	–	485	–	7,200
22,320	–	–	–	60,756	–	–	–	2,650	–	5,123
–	2	–	–	27,136	–	–	–	10,529	–	1
–	–	–	–	11,679	–	1	175	1,165	–	766
56,530	–	1	–	33,241	–	64	84	4,017	2	4,018
2,064	–	–	–	3,261	–	506	60	50	–	133
16,500	–	–	–	4,800	–	3,200	150	–	–	–
3,000	–	–	–	1,500	–	2,300	–	–	–	–
1,718	2	894	8	13,585	–	64	147	2,818	3	22,366
2,450	21	–	43	73,072	–	108	153	3,532	–	65,549
524	–	1,085	2	7,982	–	5	20	226	–	569
35	22	251	20	70,431	–	2,355	16	2,711	151	18,534
–	–	–	1	79,406	17	1,317	–	2,115	–	5,405
14,580	–	–	–	18,580	–	–	–	–	–	–
–	–	92	6	6,460	–	12	44	–	–	7,358
583	–	7,899	2	77,377	–	51	659	1,466	–	45,207
–	–	–	–	374	–	48	645	1,115	–	10,205
4,914	–	169,355	930	1,239	1	1,955	848	2,083	2,337	73,669
8,548	100	88,678	523	1,528	1	1,395	3,629	4,022	–	26,891
–	–	9,395	29	–	–	3	18	67	–	208
129,459	70	152,292	742	1,560	–	1,358	1,369	3,457	2	80,485
96	–	7,495	8	50	–	4	106	254	4	1,168
122	166	7,147	9	2	–	–	652	157	69	4,940
142	–	7,522	53	4	–	3	115	111	13	3,805
–	5	2,220	17	–	3	–	26	437	130	1,080
–	–	150	30	–	–	27	2	35	–	–
1,648	606	43,236	980	7	–	583	11,981	9,415	439	58,132
1,646	1	5,662	32	521	1	86	2,685	2,044	31	6,777
1,648	594	43,236	980	–	–	583	7,871	6,335	–	1,031
6,600	51	49,597	215	2,743	1	96	8,980	7,772	243	54,947
5,064	28	19,765	66	2	–	53	5,683	3,808	460	10,518
117	1	11,125	75	–	–	16	73	804	804	558
1,370	4	12,305	243	289	1	475	1,363	2,508	83	5,250
4,155	29	15,808	166	714	–	459	1,602	2,883	1,594	51,038
9,000	–	122,986	–	495	–	–	–	–	–	11,235
–	–	56,800	1,420	2,295	–	590	384	5,586	–	–
1,075	–	–	102,550	417	–	98	1,056	–	984	38,640
4,709	–	59,054	851	4,227	–	408	281	21,041	–	49,760
–	–	110,255	3	663	–	–	63	67	–	52,498

TABLE I. — Concluded.

TOWN.	PROPRIETOR.	Salmon.	Shad.	Alewives.	Sea Herring.
Gosnold,	Holmes & West,	–	9	2,980	24
"	Charles C. Allen,	–	–	5,875	407
"	H. J. Allen & D. P. Bosworth,	–	–	540	–
"	John Manley,	–	4	690	–
Dartmouth,	Joseph F. Briggs,	–	63	26,154	748
"	C. F. Manchester & J. Manchester,	–	212	31,266	539
"	Waite & Smith,	–	155	18,147	1,013
South Dartmouth,	George Priaulx,	–	110	–	–
" "	George A. Snell,	–	229	35,341	32
" "	Snell & Backus,	–	70	16,115	–
" "	Jonas Travers,	–	48	9,410	–
" "	Benj. Queripel (2 pounds),	–	–	16,096	3,577
" "	A. R. Reed (2 pounds),	–	39	11,647	287
" "	J. Howland, Allen & Co.,	–	23	5,637	1,784
" "	Nicholas Priaulx,	–	–	–	–
Chilmark,	H. O. Poole & Co.,	–	144	157	1,500
"	R. Flanders & Co.,	–	40	11,237	–
Tisbury,	C. B. Cleveland,	–	–	24,476	–
"	Wm. M. Vincent,	–	2	–	–
"	George Evans,	–	210	–	11,000
"	O. S. Daggett,	–	102	–	15,574
Gay Head,	Bartimus Luce & Co.,	–	–	270	280
	Totals (83),	77	50,057	1,054,607	6,665,698

TABLE II. — GILL-NETS. — *Showing*

TOWN.	PROPRIETOR.	Shad	Alewives.	Sea Herring.
Newburyport,	Dennett Aubin,	–	105,000	68,175
"	P. C. Stevens,	–	175,000	–
Essex,	William Leger,	–	–	–
Pigeon Cove,	George Tuttle,	–	–	3,600
" "	E. C. Parsons,	–	–	–
" "	Murdock Matheson,	–	–	–
East Gloucester,	Douglass & Hodgkiss,	–	–	–
" "	Thomas Douglass,	–	–	26,700
Magnolia,	J. G. Burnham,	–	–	18,000
Marblehead,	J. J. Glass,	–	–	10,800
Swampscott,	George A. R. Horton,	–	–	20,000
"	William H. Thomas,	50	300	3,000
"	Frank H. Horton,	–	–	–
"	Joseph S. Hamilton,	–	–	2,400
Cohasset,	Joseph F. Vandura,	–	–	1,672
Scituate,	D. Conner,	–	–	3,000
"	William Bates,	–	–	6,000
Green Harbor,	Lyman Sears,	–	–	–
Sandwich,	R. S. Kerry,	–	–	183,900
"	O. R. Nickerson,	–	–	–
Barnstable,	B. A. Kendrick,	–	–	–
"	W. B. Nickerson,	–	–	700
"	Nelson A. Nickerson,	–	–	11
"	Moses Sturges, Jr.,	–	–	–
South Yarmouth,	D. S. Baker,	–	–	–
Dennis,	N. Edwards,	–	–	–
"	George G. Snow & N. Nixon,	14,394	–	–
"	Albert J. Edwards,	16,000	–	–
"	Sylvanus Weson,	–	–	–
"	J. K. Nickerson,	22,000	–	–
"	Joshua Pierce,	–	–	–

TABLE I. — Concluded.

Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
93	–	37,835	8	657	–	2	42	44	–	28,977
–	–	–	2,100	–	–	–	148	963	–	10,863
10	–	51,900	–	194	–	–	62	130	–	2,600
1,000	–	127,446	–	724	20	15	127	524	–	18,838
2,081	509	3,954	353	1	–	610	1,155	3,608	172	1,448
8,486	1	27,498	7	1	1	215	858	14,273	–	–
3,788	21	16,728	2,286	172	2	1,700	–	37,004	75	2,434
28,299	–	10,563	4,184	111	1	70	32	6,685	–	28,030
34	6	22,180	852	186	–	189	995	–	–	22,960
1,600	70	233	485	100	–	173	222	1,718	–	720
3,152	–	22,858	387	58	–	62	329	–	2,854	9,489
7,936	–	18,260	264	30	1	177	–	1,857	12	–
384	56	1,723	434	25	–	214	539	6,749	–	2,847
3,315	22	14,706	384	58	1	35	200	4,346	–	–
14,025	–	21,393	1,734	75	–	163	135	2,601	–	38,323
697	–	33,779	961	1,591	4	195	286	6,856	11	40,415
7	–	8,832	681	49	1	217	–	1,018	–	5,643
–	–	2,325	–	–	–	–	–	7,650	–	5,305
400	10	1,000	500	–	–	300	5	2,000	–	500
10,000	10	5,900	–	500	–	10	–	200	–	16,124
816	20	13,169	1,010	–	7	880	330	2,854	–	9,627
407	–	18	845	11,177	2	28	4	387	–	29,126
1,202,777	2,455	1,448,451	127,602	2,877,768	115	38,376	63,214	358,917	10,805	2,716,969

the Catch of each during the Year 1888.

Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish	Eels.	Other Edible Fish.
–	–	–	–	–	–	–	–	–	–	22,500
9,000	–	–	–	–	–	–	–	–	–	–
3,000	–	–	1,000	–	–	–	–	–	–	400
–	–	–	–	1,500	–	–	–	–	–	–
–	–	–	–	2,030	–	–	–	–	–	–
–	–	–	–	13,000	–	–	–	–	–	–
–	–	–	–	23,000	–	–	–	–	–	1,200
–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	1,500	–	–	–	–	–	–
40,000	–	–	–	5,000	–	–	–	–	–	–
4,325	–	–	–	1,606	–	–	–	–	–	–
–	–	–	–	356	–	–	–	–	–	–
–	–	–	–	2,300	–	–	–	–	–	–
–	–	–	–	436	–	–	–	–	–	4,391
–	–	–	–	1,500	–	–	–	–	–	–
–	–	–	–	3,000	–	–	–	–	–	–
–	–	–	–	2,000	–	–	–	–	–	–
–	–	–	–	327,200	–	–	–	–	–	–
–	90	–	–	–	–	1,300	–	–	–	–
–	–	–	–	–	–	1,786	–	–	–	–
400	2	150	35	–	–	2,303	–	–	–	–
300	28	200	–	–	–	2,978	2	1,122	–	73
14	91	6	–	314	–	1,117	–	–	–	–
–	–	–	–	–	–	133	–	–	–	–
–	–	–	–	–	–	3,680	–	–	–	–
325	–	–	4	9,082	–	11,093	–	–	–	–
–	–	–	–	–	–	5,339	–	–	–	–
–	32	–	3	–	–	1,379	–	–	–	–
650	–	–	–	6,630	–	66,200	–	–	–	–
–	–	–	–	–	–	5,222	–	–	–	–

TABLE II. — Continued.

TOWN.	PROPRIETOR.	Shad.	Alewives.	Sea Herring.
Dennisport,	H. E. Rogers,	–	–	–
"	David E. Wixon,	–	–	–
"	Joseph H. Long,	23,000	–	–
Truro,	C. H. Collins,	–	165	30
"	H. R. Cobb,	–	–	–
North Truro,	George T. Lewis,	–	–	–
" "	Thomas D Smith,	–	–	–
Provincetown,	J. C. P Harvender,	–	–	4,254
"	H. L. Mayo,	6	–	–
"	Paul L. Bangs,	–	–	–
"	C. Williams, Jr,	–	–	–
"	N W. Freeman,	–	–	–
"	G W. Crosby,	–	–	5,000
"	B. F. Benson,	–	–	–
"	Reuben Ryder,	–	–	–
"	J. H. Little,	–	–	–
"	John C. Weeks,	–	–	–
"	Jonah Newcomb,	–	–	–
"	J. W. Savage,	–	–	–
"	E. Nickerson,	–	–	–
"	John Freeman,	–	–	–
"	A. L. Daggett,	–	–	1,380
"	H. M. Smith,	–	–	–
"	Boniface Silva,	–	–	–
"	George W. Freeman,	–	–	1,929
"	Tilden A. Snow,	16	2,971	1,695
"	R. H. Atwood,	–	200	–
"	Frank I. Sears,	–	–	–
"	J. A. Lewis,	–	–	–
"	George Lewis,	–	–	–
"	J. J. Cook,	–	–	–
"	W. M. Elwell,	200	50	–
"	George H. Lewis,	–	–	–
"	Isaac Tyler,	–	–	–
"	Reuben Mayo,	–	–	–
"	Charles Williams,	–	–	–
"	Joseph E. Weeks,	–	–	–
"	James E. Rand,	–	–	–
"	Jesse Wiley,	–	–	–
"	J. B. Dyer,	–	–	–
"	M. S. Brown,	–	–	1,120
"	Joseph Sears,	525	888	1
"	Joseph Ellis,	1	400	12
"	Manuel Sears,	1	334	25
"	Alfred Mayo,	2	–	–
"	Levi B. Kelley,	–	–	–
"	Thomas Mayo,	–	–	2,564
"	William Dyer,	–	–	40
"	Isaac A. Dyer,	–	–	–
"	H. S. Harrender,	–	–	–
Eastham,	Alonzo Higgins,	–	–	–
"	Wm. H. Nickerson,	5	3,017	16,823
"	C. Anderson,	–	–	–
"	John F. Walker,	–	–	–
"	James Penniman,	–	–	–
"	J. W. Lincoln,	–	–	–
Orleans,	Albert Smith,	–	–	–
Chatham,	John S. Ryder,	–	590	184
"	E. J. Ryder,	–	–	–
"	Otis C. Eldridge,	–	–	–
"	Harrison F. Gould,	–	–	–
"	Elmer F. Mayo,	–	–	–
"	Alvin Z. Atkins,	–	–	–
"	Francis C. Hitchings,	–	–	–
"	Elias S. Gould,	–	–	–
"	Benjamin F. Patterson,	10	–	143
"	Washington Bearse,	–	–	–
"	Jeremiah Eldridge,	–	–	–
"	F. Bloomer,	–	–	–
"	Frank L. Eldridge,	–	–	–

TABLE II. — Continued.

Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish	Eels.	Other Edible Fish.
–	–	–	–	–	–	4,957	–	–	–	–
–	–	–	–	–	–	3,910	–	–	–	–
1,000	–	–	–	6,000	–	7,767	–	–	–	–
847	–	–	–	744	–	1	–	–	–	–
–	–	–	–	1,517	–	24	–	–	–	–
–	–	–	–	853	–	–	–	–	–	–
–	–	–	–	6,052	–	–	–	–	–	700
–	–	–	–	1,518	–	8	–	302	–	–
–	–	–	–	11,146	–	1,283	–	–	–	244
–	–	–	–	1,547	–	–	–	–	–	–
–	–	–	–	9,139	–	–	–	–	–	–
–	–	–	–	300	–	–	–	–	–	–
–	–	–	–	3,000	–	–	–	10,000	–	–
–	–	–	–	9,000	–	–	–	–	–	–
–	–	–	–	3,165	–	–	–	9,000	–	–
–	–	–	–	60	–	–	–	–	–	–
–	–	–	–	153	–	–	–	–	–	–
–	–	–	–	14,721	–	–	–	–	–	4,497
–	–	–	–	504	–	–	–	–	–	–
–	–	–	–	272	–	–	–	–	–	–
–	–	–	–	654	–	–	–	–	–	–
–	–	–	–	6,020	–	–	–	–	–	–
–	–	–	–	2,023	–	–	–	–	–	–
–	–	–	–	1,676	2,107	–	–	–	–	–
–	–	–	28	342	–	–	–	–	–	–
–	–	–	–	3,057	–	21	–	–	–	608
–	–	–	–	400	–	–	–	–	–	–
–	–	–	–	20,347	–	–	–	–	–	–
–	–	–	–	3,876	–	–	–	–	–	–
–	–	–	–	3,203	–	–	–	7,786	–	–
–	–	–	–	5,257	–	–	–	–	–	215
175	–	–	–	431	–	–	–	–	–	–
–	–	–	–	697	–	–	–	–	–	–
–	–	–	–	10,313	–	–	–	–	–	–
–	–	–	–	559	–	–	–	–	–	–
–	–	–	–	1,105	–	–	–	–	–	–
–	–	–	–	3,232	–	–	–	–	–	–
–	–	–	–	22,937	–	–	–	–	–	–
–	–	–	–	3,753	–	72	–	–	–	–
–	–	–	–	3,125	–	–	–	–	–	–
–	–	–	–	–	–	–	–	1,210	–	–
–	–	–	–	2,011	–	–	–	–	–	97
1,852	–	–	–	880	–	6	–	–	–	48
–	–	–	–	2,950	–	12	–	105	–	97
–	–	–	–	156	–	–	–	960	–	16
1,800	–	–	–	407	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	151
–	–	–	–	1,469	–	–	–	–	–	–
–	–	–	–	7,381	3	–	–	–	–	–
–	–	–	–	638	–	–	–	–	–	–
–	–	–	–	5,100	50	340	–	–	–	–
–	–	–	–	4,801	–	131	289	–	–	92
–	–	–	–	1,430	–	132	629	–	–	144
695	–	–	–	1,240	–	841	–	–	–	500
–	–	–	–	1,603	–	254	–	–	–	–
1,800	–	–	–	1,020	–	329	–	–	–	–
–	–	–	–	–	–	–	–	–	–	1,352
–	29	10	–	1,220	–	–	–	–	–	1,745
–	–	–	–	27	1	1,117	–	–	–	–
–	–	–	–	50	2	788	–	–	–	–
–	–	–	–	9	1	495	–	–	–	–
1,073	–	–	–	95	2	3,004	–	–	–	2,548
8	–	–	–	–	–	828	–	–	–	–
–	–	–	–	128	–	294	–	200	–	325
–	1	–	–	36	–	168	–	–	–	–
–	–	–	–	1,756	–	12	–	–	–	–
–	–	–	–	879	–	–	–	–	–	–
–	–	–	–	–	–	896	–	–	–	–
–	–	–	–	–	3	386	–	–	–	–
–	–	–	–	–	–	1,800	–	–	–	–

TABLE II. — Concluded.

TOWN.	PROPRIETOR.	Shad.	Alewives.	Sea Herring.
Chatham,	G. W. Bloomer,	–	–	–
"	Fernando Bearse,	–	–	–
"	S. W. Mallows,	–	–	–
Harwichport,	W. T. Tuttle,	–	–	–
Hyannis,	F. B. Sherman,	–	–	–
Hyannis Port,	Orin Crosby,	–	–	–
" "	H. C. Lumbert,	–	–	–
" "	T. F. Phinney,	–	–	–
Centreville,	W. W. Hallett,	–	–	–
"	C. E. Bearse,	–	–	–
"	James D. Kelley,	–	–	–
Mattapoisett,	Lilburne Hiller,	–	–	–
"	Joseph J. Nye,	–	–	–
"	Albert Winters,	–	–	–
Fairhaven,	C. E. Allen, H. W. Allen,	–	–	–
"	D. C. Potter,	–	–	–
"	Daniel W. Dean,	–	–	–
"	John T. Besse,	–	–	–
"	Albert C. Swain,	–	–	–
Gosnold,	Peter B Davis,	–	–	–
Nantucket,	E. B. Dunham,	–	–	–
"	Leander Small,	–	–	1,450
"	Thomas F. Hamblin,	–	–	–
"	John Hamblin,	–	–	–
"	Arthur C. Manter,	–	–	1,216
"	Charles B. Brooks,	–	–	–
"	J. O. Freeman,	–	–	–
"	Horace B. Cash,	–	19	25
"	Colin Small,	–	–	–
"	George H. Hamblin,	–	–	–
"	W. J. Fisher,	–	–	–
"	Lewis E. Thomas & Co.,	–	–	–
Island of Tucanuck,	George E. Coffin & Co,	–	–	4,650
	Totals (134),	76,210	288,934	390,499

TABLE III. — SALT-WATER SEINES. — *Showing*

TOWN.	PROPRIETOR.	Shad.	Alewives.
Newburyport,	Edwin F. Hunt,	2,000	–
"	C. A. Caswell,	–	180,000
Swampscott,	A. F. Nesbitt,	–	–
Cohasset,	R. Ainslie,	–	–
Dennisport,	E. B. Joy,	13,800	–
Provincetown,	E. W. Smith,	–	–
Chatham,	E. K. Bearse,	–	–
Hyannis,	E. Taylor,	–	–
	Totals (8),	15,800	180,000

TABLE II. — Concluded.

Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
–	–	–	–	1,446	–	302	–	–	–	53
–	–	984	–	–	–	3,085	–	1	–	–
–	–	–	–	–	–	92	–	–	–	–
–	–	–	–	500	–	1,050	–	–	–	–
–	–	2,785	–	–	–	395	–	–	–	1,127
–	–	305	275	–	–	4,564	–	–	–	–
–	–	–	–	–	–	250	–	–	–	–
–	–	–	261	–	–	6,086	–	–	–	–
–	–	–	–	–	–	3,550	–	–	–	–
–	273	169	1	–	–	5,354	–	–	–	–
–	–	–	–	–	–	888	–	–	–	–
3,576	–	619	120	1	1	3,013	32	19	1	711
–	–	–	1	–	–	115	–	–	–	–
–	–	738	143	–	2	1,179	–	–	–	274
–	–	–	–	–	–	793	–	–	–	–
–	–	1	2	–	–	89	–	–	–	–
1,180	–	538	55	–	–	1,342	12	–	–	155
155	2	52	4	–	–	586	12	1	–	10
–	–	–	58	–	–	1,544	–	–	–	–
–	700	1,025	–	–	–	–	–	–	–	1,650
–	–	–	–	–	–	6	–	–	–	–
–	–	–	–	1,183	–	3,894	–	–	–	–
–	–	6	2	–	–	439	–	–	–	–
–	–	–	–	–	–	806	–	–	–	–
3,640	–	–	–	1,035	–	1,220	–	–	–	–
–	–	–	–	–	–	578	–	–	–	–
–	–	–	–	–	–	1,125	–	–	–	–
206	–	–	–	365	–	94	–	–	–	–
–	77	–	–	167	–	432	338	–	–	–
–	–	–	–	–	–	1,586	–	–	–	–
583	–	116	–	38	–	2,002	–	32	–	88
–	–	–	–	–	–	5,845	–	–	–	–
–	24	–	35	1,218	–	8,039	–	–	–	6
76,604	1,349	7,704	2,027	604,392	2,172	192,749	1,314	30,738	1	46,017

the Catch of each during the Year 1888.

Sea Herring.	Menhaden.	Mackerel.	Bluefish.	Eels.	Other Edible Fish.
–	–	–	–	–	–
328,000	4,702	4	–	18,700	–
–	–	–	–	–	–
1,200	–	900	–	–	6,000
–	–	2,800	2,475	–	–
14,675	13,004	25,531	2,005	–	32
–	–	–	1,567	–	–
–	–	–	750	–	–
343,875	17,706	29,235	6,797	18,700	6,032

TABLE IV. — TRAPS, FYKES, AND

TOWN.	PROPRIETOR.	Herring.	Alewives.
Gloucester,	A. E. Douglass, trap,	100,000	–
"	F. A. Tarr, trap and nets,	53,100	–
"	S. A. Bates, trap and gill-nets,	14,100	–
East Gloucester,	J. Douglass,	15,000	–
" "	A. Varney, trap,	6,300	–
Manchester,	Jones Bros. & West, trap,	64,185	5,150
Chatham,	Jeremiah Eldridge, fyke,	–	–
South Dartmouth,	W. S. Matthews, fyke,	–	–
	Totals (8),	252,685	5,150

TABLE V. — ALEWIFE FISHERIES. — *1888.*

TOWN.	PROPRIETOR.	Shad.	Alewives.	Striped Bass	Perch.	Smelts.	Frostfish.	Flounders or Flatfish	Eels.
Medford,	J. A Cross,	–	52,862	–	–	–	–	–	–
Hingham,	Thomas Weston,	–	1,975	–	–	–	–	–	5,025
Plymouth,	J. C. & E. Bearse,	1	61,345	–	–	–	–	–	–
Middleborough.	Randall Hathaway,	–	74,090	–	–	–	–	–	–
Yarmouth,	Long Pond Fishing Co.,	–	13,500	–	245	–	–	–	452
Yarmouth and Dennis,	Edgar M. Baker,	–	109,907	–	412	–	–	725	159
Brewster,	J. Howard Winslow,	–	47,024	–	–	–	–	–	–
Wellfleet,	Warren Newcomb,	–	204,730	–	–	–	–	–	–
Westport,	P. S Tripp,	–	385	–	4,692	–	–	296	379
"	Henry B Tripp,	3	3,655	–	171	115	222	9	–
"	W. Manchester & George R. Tripp,	–	1,164	–	–	–	–	–	–
"	L. W. White,	–	3,280	–	71	–	–	–	–
"	James M. Sowle,	–	4,988	–	213	–	–	–	–
"	James S. Lawton,	–	6,345	4	123	333	293	–	22
South Westport,	C F. Hilt,	2	6,356	–	423	–	2,057	23	31
" "	Thomas Wilcox,	–	2,742	–	–	–	–	–	–
Mattapoisett, Rochester and Marion,	A. H. Shurtleff,	–	414,668	–	–	–	–	–	–
Chilmark,	Estate of H. M. Smith,	–	17,036	–	–	–	–	–	–
	Totals (18),	6	1,026,052	4	6,350	448	2,572	1,053	6,068

TABLE VI. — TAUNTON RIVER SEINES. — *1888.*

TOWN.	PROPRIETOR.	Shad.	Alewives.	Perch.
Taunton,	Henry B. Macomber & Co.,	563	59,683	101
"	J. W. Hart,	388	77,870	–
"	H. P. Macomber & Co.,	143	64,573	–
Raynham,	Gustavus King,	1,038	97,050	–
"	G. B & E. Williams,	1,343	127,440	–
Berkley,	David B. Shove,	900	150,000	–
"	Isaac M. Babbitt,	826	104,700	–
"	J. W. Thrasher,	400	75,500	–
Dighton,	C. N. Simmons,	750	140,000	–
Somerset,	John Simmons,	2	5,803	–
	Totals (10),	6,353	902,619	101

IRREGULAR RETURNS — *1888.*

Menhaden.	Mackerel.	Flounders and Flatfish.	Eels.	Cod.	Butterfish.	Frostfish.	Bonito.
-	150,000	-	-	-	5,000	-	-
-	-	-	-	1,511	6,000	-	-
-	14,800	-	-	-	21,000	-	-
-	75,000	500	-	8,000	-	-	-
-	15,000	-	-	-	24,150	-	-
7,750	33,666	-	-	-	12,815	-	40
-	-	-	3,544	-	-	-	-
-	-	2,623	-	-	-	221	-
7,750	288,466	3,123	3,544	9,511	68,965	221	40

TABLE VII. — CONNECTICUT RIVER SEINES. — *1888.*

TOWN.	PROPRIETOR.	Shad.
South Hadley Falls, . .	C. C. Smith and others, ...	824

TABLE VIII. — MERRIMAC RIVER SEINES. — *1888.*

TOWN.	PROPRIETOR.	Shad.
North Andover, . . .	Eben Sutton, ...	-

TABLE IX.— *Comparison of Returns for the Years 1882, 1883, 1884, 1885, 1886, 1887 and 1888.*

YEAR.	FISHERIES. Kind.	No.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
1882,	Pounds and weirs,	85	27,769	1,420,919	1,201,449	8,102	4,219	1,991,480	67,266	3,289,512	310	133,805	40,512	114,843	4,016	–
1883,	" "	87	5,994	1,250,263	339,116	4,048,022	2,876	1,848,583	92,671	4,756,490	246	60,182	35,481	184,387	5,361	–
1884,	" "	93	5,392	715,886	2,806,203	308,381	6,950	1,641,129	74,826	1,440,486	99	109,694	23,929	288,930	33,980	–
1885,	" "	80	18,088	1,066,148	6,564,619	6,255	1,365	1,240,630	17,746	2,643,190	24	32,575	47,231	317,082	7,741	128,698
1886,	" "	58	15,874	1,012,802	1,364,684	48,910	2,412	1,966,243	3,226	1,290,466	20	17,315	47,490	261,595	11,570	572,334
1887,	" "	62	14,044	1,453,820	1,713,846	127,951	1,233	2,153,504	15,742	1,069,609	109	44,204	89,075	304,492	7,615	812,810
1888,	" "	83	50,057	1,054,607	6,665,698	1,202,777	2,455	1,448,451	127,602	2,877,768	115	38,376	63,214	358,917	10,805	2,716,892
1888,	Traps, fykes and irregular returns,	8	–	5,150	252,685	7,750	–	–	–	288,466	–	–	–	3,123	3,544	–
1882,	Sea seines,	33	1,222	186,321	20,005	10	1,280	53,975	839	23,717	6	54,963	2,321	1,784	2,936	–
1883,	"	24	19	40,515	510	934,523	527	4,321	23	10,567	4	22,916	804	816	487	–
1884,	"	22	6,530	58,907	502,609	1,343	575	5,662	1,336	3,002	6	20,044	899	2,706	2,074	–
1885,	"	19	434	109,995	2,575	44	288	26,340	615	796	–	6,635	3	4,555	814	817
1886,	"	16	22	73,927	150,435	6	1,437	11,813	26	47,485	7	67	376	1,456	16,995	7,324
1887,	"	12	9	324,965	739,200	–	570	–	–	–	–	8,080	–	11	30,415	3,011
1888,	"	8	15,800	180,000	343,875	17,706	–	–	–	29,235	–	6,797	–	–	18,700	6,032
1882,	Gill-nets,	100	516	238,309	290,606	623	147	45,071	3,366	563,370	81	136,705	3,924	31,703	97	–
1883,	"	88	7	1,481	79,179	3,104	311	1,933	1,079	381,968	–	108,899	162	11,865	1,268	–
1884,	"	63	14	8,405	39,080	183	57	2,193	1,918	213,827	–	116,024	679	16,325	352	–
1885,	"	59	10	7,679	79,576	9,502	213	514	1,041	182,360	1	94,736	230	26,393	153	4,637
1886,	"	33	–	323,800	1,347	305	87	1,206	16	27,978	2	32,276	663	13,136	4,675	10,002
1887,	"	23	792	22,144	40,011	57	31	676	2,586	177,401	3	13,938	457	14,195	1	1,697
1888,	"	134	76,210	288,934	390,499	76,604	1,349	7,704	2 027	604,392	2,172	192,749	1,314	30,738	1	46,017
1882,	Connecticut River seines,	3	2,770	–	–	–	–	–	–	–	–	–	–	–	–	–
1883,	" " "	4	3,591	–	–	–	–	–	–	–	–	–	–	–	–	–
1884,	" " "	2	1,593	–	–	–	–	–	–	–	–	–	–	–	–	–
1885,	" " "	1	1,718	–	–	–	–	–	–	–	–	–	–	–	–	–
1886,	" " "	1	577	–	–	–	–	–	–	–	–	–	–	–	–	–
1887,	" " "	1	850	–	–	–	–	–	–	–	–	–	–	–	–	–
1888,	" " "	1	824	–	–	–	–	–	–	–	–	–	–	–	–	–
1882,	Merrimac River seines,	4	387	2,800	–	–	–	–	–	–	–	–	–	–	–	–
1883,	" " "	2	146	–	–	–	–	–	–	–	–	–	–	–	–	–

1884,	" " "	2	111	–	–	–	–	–	–	–	–	–	–	5	–	–	–
1885,	" " "	2	130	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1886,	" " "	1	73	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1887,	" " "	1	28	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1888,	" " "	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1882,	Taunton River seines,	11	11,173	1,039,272	–	–	44	–	–	–	–	–	–	–	–	–	–
1883,	" " "	11	5,012	1,123,473	–	–	294	–	–	–	–	–	–	–	–	–	–
1884,	" " "	10	4,037	959,736	–	–	429	–	–	–	–	–	–	–	–	–	–
1885,	" " "	10	4,964	1,267,479	–	–	15	–	–	–	–	–	–	–	–	–	–
1886,	" " "	8	2,620	962,690	–	–	–	–	–	–	–	–	–	–	–	–	700
1887,	" " "	8	4,550	863,278	–	–	–	–	–	–	–	–	–	–	–	–	–
1888,	" " "	10	6,353	902,619	–	–	–	–	–	–	–	–	–	–	–	–	–
1882,	Other fresh-water seines,	25	897	1,558,659	–	–	234	–	–	–	–	–	–	–	–	–	–
1883,	" " "	23	391	1,762,950	–	–	1,072	–	–	–	–	–	–	–	–	–	–
1884,	" " "	13	22	610,847	–	–	897	–	–	–	–	–	–	–	–	–	–
1885,	" " "	13	3	1,296,449	–	–	–	–	–	–	–	–	–	–	–	–	–
1886,	" " "	7	300	797,365	–	–	–	–	–	–	–	–	–	–	–	25,275	–
1887,	" " "	5	–	454,409	–	–	–	–	–	–	–	–	–	–	–	11,520	–
1888,	" " "	19	6	1,026,052	–	–	4	–	–	–	–	–	–	1,053	6,068	–	–
1882,	Total returns,	261	44 734	4,446,280	1,512,060	8,735	5,929	2,090,526	71,471	3,876,599	397	325,473	46,757	148,330	7,049	–	–
1883,	" "	239	15,160	4,178,682	418,805	4,985,649	5,080	1,854,837	93,773	5,149,025	250	191,997	36,807	197,068	7,116	–	–
1884,	" "	205	17,699	2,353,781	3,347,892	309,907	7,582	1,648,984	78,080	1,657,315	105	245,762	30,507	307,971	36,406	–	–
1885,	" "	184	25,347	3,747,750	6,546,770	15,801	1,881	1,267,484	19,402	2,826,346	25	133,946	47,464	348,030	8,708	134,152	–
1886,	" "	124	19,466	3,183,741	1,520,466	49,221	3,936	1,979,262	3,268	1,395,850	29	55,031	48,678	276,187	58,872	590,659	–
1887,	" "	112	19,292	3,108,642	2,345,632	97,510	1,833	2,144,973	18,357	1,057,565	112	66,422	89,065	320,220	50,071	818,639	–
1888,	" "	264	149,250	3,457,362	7,652,757	1,304,837	3,808	1,456,154	129,629	3,799,861	2,287	237,922	64,528	393,831	39,118	2,769,018	–
	Increase of 1885 over 1884,	–	7,648	1,393,969	3,198,878	–	–	–	–	1,169,031	–	–	16,957	40,059	–	–	–
	Decrease of 1885 below 1884,	21	–	–	–	294,106	5,701	381,500	58,678	–	80	111,816	–	–	27,698	–	–
	Increase of 1886 over 1885,	–	–	–	–	33,420	2,005	711,778	–	–	4	–	1,214	–	50,164	456,507	–
	Decrease of 1886 below 1885,	60	5,881	564,009	5,026,304	–	–	–	16,134	1,430,496	–	78,915	–	71,843	–	–	–
	Increase of 1887 over 1886,	–	–	–	825,166	48,289	–	165,711	15,089	–	83	11,391	40,387	44,033	–	227,980	–
	Decrease of 1887 below 1886,	12	174	75,099	–	–	2,103	–	–	338,285	–	–	–	–	8,801	–	–
	Increase of 1888 over 1887,	152	129,958	348,720	5,307,125	1,207,327	1,975	–	111,272	2,742,296	2,175	171,500	–	73,611	–	1,950,379	–
	Decrease of 1888 below 1887,	–	–	–	–	–	–	688,819	–	–	–	–	24,537	–	10,953	–	–

PUBLIC DOCUMENT. No. 25.

REPORT OF THE COMMISSIONERS

ON

INLAND FISHERIES AND GAME

FOR THE

YEAR ENDING DECEMBER 31, 1889.

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Commonwealth of Massachusetts.

To His Excellency the Governor and Honorable Council.

The Commissioners on Inland Fisheries and Game respectfully present their Twenty-fourth Annual Report.

Fishways.

The damage done to the Lawrence fishway by the passage of logs down the river during the spring freshet has been repaired.

The fishway at Holyoke, so long neglected by the corporation, was during the past summer repaired, and the lower part rebuilt.

Monatiquot River.

On the 19th of May, 1889, the following petition was received from the fish wardens of Randolph: —

Randolph, Mass., May 18, 1889.

To the Honorable the Board of Commissioners on Inland Fisheries of the Commonwealth of Massachusetts.

Gentlemen: — The undersigned having been duly chosen by the town of Randolph, by virtue of and in accordance with the provisions of section 2 of chapter 78 of the Acts of 1889, as the persons to carry out and enforce the provisions of said chapter, and the regulations made by virtue thereof, and having in part stocked with fish the waters therein named, respectfully call your Honors' attention to the fact that there are, between said waters and the sea, in the migratory courses of fish, eight dams, all on the Monatiquot River, so called, and all lying in the town of Braintree, at which dams there are either no fishways or no sufficient fishways.

That said dams are owned, as we are informed and believe, as follows, being named in order, beginning with the highest up stream: —

First Dam. — Owned by Sumner Hollingsworth and others.
Second Dam. — Owned by Sumner and Ellis Hollingsworth.
Third Dam. — Owned by Oliver Ames & Sons Corporation.
Fourth Dam. — Owned by James T. Stevens and Geo. D. Willis.
Fifth Dam. — Owned by Alva S. Morrison and others.
Sixth Dam. — Owned by Lydia D. and Lyman W. Morrison.
Seventh Dam. — Owned by The Jenkins Manufacturing Corporation.
Eighth Dam. — Owned by Betsy B. Hobart.

Therefore, we pray your Honors to examine said dams with all convenient dispatch, and require such fishways to be built and maintained thereat as your Honors deem sufficient and proper.

S. A. Thayer,
Franklin W. Hayden,
Hale S. Howard,

Fish Wardens duly chosen by the town of Randolph, in accordance with section 2 of chapter 78 of the Acts of 1889.

In addition to this, several communications were received from leading citizens of Braintree and adjoining towns, urging the opening of the river for the passage of migratory fish. As early as possible the river was visited, the dam inspected, surveys and the plans made, and on August 9 these plans, with notice to build fishways, were served on the several owners or occupants of these dams.

In our examination of this once beautiful river, we were painfully aware of the changes that have been made in it during the last thirty years. Its once clear waters are now sadly polluted, due mainly to filth poured into it by one or two of the upper mills. There is no necessity for the existence of this nuisance, jeopardizing the health and damaging the property of people residing on its banks. Its abatement is simply a question of dollars and cents. Against life and health, and the preservation of our fisheries, these should not count. The pollution of our rivers and streams is a matter which, sooner or later, will demand prompt action. It is one of those insidious, accumulative evils, unheeded by many who are daily brought in contact with it, until some sudden epidemic reveals its true character. Its poisonous

effects are not at once removed by the removal of the original cause of pollution. The great amount of filth accumulated on the bottom and shores remains for years a constant menace and reminder of our disregard of sanitary conditions.

FISH SEEN IN THE LAWRENCE FISHWAY IN THE YEAR 1889.

Apr. 19. Saw the first fish, a sucker.
20 to 24. River high, saw no fish.
25. One alewife, one lamprey, and a few suckers.
26. A few alewives, lampreys and suckers. The river clear, and water lower than it has been for months.
27 to May 1. River high and muddy, no fish running.
May 3 to 5. A few suckers.
6. A few suckers and lampreys.
7. A few suckers and lampreys.
8. Suckers, run moderate; a few lampreys and alewives.
9. Suckers, run moderate; lampreys and alewives, run small.
10. Suckers, run large; lampreys and alewives, run moderate.
11. Suckers, lampreys and alewives, run moderate.
12. Suckers, lampreys and alewives, run moderate.
13. Suckers and lampreys, run large; alewives, run moderate.
14. Suckers, lampreys and alewives, run moderate.
15. Suckers and lampreys, run moderate; alewives, run small.
16. Suckers and lampreys, run moderate.
17. Suckers, lampreys, chubbs and shiners, run moderate.
18. Suckers, lampreys and chubbs, run moderate.
19. One salmon, 6 to 8 pounds; suckers and lampreys, run moderate.
20. Lampreys, run large; suckers and alewives, run small.
21. Lampreys, run moderate; suckers and alewives, run small.
22. Lampreys, suckers and alewives, run small; river rising.
23. Lampreys, suckers and alewives, run moderate; river higher.
24. One salmon, 7 pounds; alewives, run large.
25 and 26. Lampreys, run moderate; alewives and suckers, run small.
27 to June 1. Lampreys, run moderate; suckers, run small.
June 2. Lampreys, run moderate; alewives and suckers, run small.
3. Lampreys and suckers, run moderate; alewives, run small.
4. Two salmon, 7 to 9 pounds; lampreys, suckers and alewives, run moderate.
5. Lampreys and alewives, run moderate; suckers, run small.
6. Lampreys and suckers, run moderate; alewives, run small.
7. Lampreys and suckers, run moderate; a few silver eels.
8. Lampreys, suckers and alewives, run moderate.
9. Lampreys, suckers and alewives, run moderate.
10. Lampreys and suckers, run moderate; alewives, run small.
11. Lampreys and suckers, run moderate; alewives, run small.

June 12. One salmon, 18 to 20 pounds; lampreys and suckers, run small.
13. Lampreys and suckers, run small.
14. Lampreys and suckers, run small; a few small silver eels.
15. Lampreys and suckers, run small; a few small silver eels.
16. One salmon, 3 to 3½ pounds (this is the smallest salmon I have ever seen in the way); a few suckers, lampreys and small silver eels.
17. Lampreys, suckers and silver eels (small ones), run small.
18. Lampreys, suckers and silver eels (small ones), run small.
19. Suckers and small silver eels, run small.
20. Suckers and small silver eels, run small.
21. One black bass; suckers and small silver eels, run small.
22. Suckers and small silver eels, run small.
23. One black bass; suckers and small silver eels, run small.
24. Suckers and small silver eels, run small.
25. One salmon, 16 to 18 pounds; one black bass. Water shut out of fishway greater part of day to caulk leaks; water let in again at 6 P.M.
26. One salmon, 6 to 8 pounds. At 7 A.M. water shut out again to complete caulking. River very low this morning. Men at work repairing flashboards on the dam. The men said they saw salmon jump below the dam quite a number of times. Boards all on dam at 3 P.M., water let into fishway at 5 P.M.
27. Seven salmon, 6 to 18 pounds. Water is running over the flashboards on the dam six inches deep.
28. Three salmon, 8 to 18 pounds; very few other fish.
29. Three salmon, 10 to 18 pounds; very few other fish; very few suckers and silver eels.
30. Four salmon, 10 to 20 pounds; suckers, run moderate in P.M. River rose last night.

July 1. One salmon, 8 to 10 pounds; a very few suckers and small silver eels.
2. A very few suckers and small silver eels.
3. One black bass; a very few suckers and small silver eels.
4. A very few suckers and small silver eels.
5. A very few suckers and small silver eels.
6. One salmon, 10 to 12 pounds; a very few suckers and small silver eels.
7. Suckers and small silver eels, run small.
8. Suckers and small silver eels, run small.
9. Suckers and small silver eels, run small.
10. One salmon, 12 to 14 pounds; suckers and small silver eels, run small.
11. One salmon, 14 to 18 pounds; suckers and small silver eels, run small.
12. One salmon, 12 pounds; suckers and small silver eels, run small.
13. Suckers and small silver eels, run small.

July 14. One black bass; small silver eels, run small.
15. Small silver eels, run small; a few suckers.
16. Small silver eels, run small; a few suckers.
17. One black bass; small silver eels, run small; a few suckers.
18. One salmon, 12 to 14 pounds; silver eels, run small.
19. Small silver eels, run small; a few suckers.
20. Small silver eels, run small; a few suckers.
21. Two salmon, 12 to 14 pounds; a few suckers and silver eels. River rose rapidly after 3 P.M.
22. Suckers and small silver eels, run small. River high and somewhat muddy.
23. Two salmon, 12 to 14 pounds; silver eels and suckers, run small.
24. Two salmon, 14 to 20 pounds; a few suckers and eels.
25. One salmon, 12 pounds; a few suckers and eels.
26. Silver eels, run small; a few suckers.
27. Silver eels, run small; a few suckers.
28. One black bass; silver eels, run small; a few suckers.
29. Silver eels, run small; a few suckers and chubbs.
30. Two salmon, 12 to 18 pounds; silver eels, run small; a few suckers.
31. Three salmon, two 20 pounds, one 14 pounds; silver eels, run moderate; suckers and chubbs, run small. River rising.

Aug. 1. River high and muddy, did not draw fishway.
2. River high and muddy, did not draw fishway.
3. River high. Suckers and silver eels, run moderate.
4. One salmon, 18 to 20 pounds; suckers and silver eels, run small.
5. Suckers and silver eels, run moderate.
6. Suckers and silver eels, run small.
7. One black bass; suckers and silver eels, run small.
8. Two black bass; suckers and silver eels, run small.
9. One salmon, 18 pounds; one black bass; suckers and silver eels, run moderate.
10. One salmon, 14 pounds; suckers and silver eels, run small.
11. One salmon, 18 pounds; two black bass; suckers and silver eels, run moderate.
12. Four black bass; suckers and silver eels, run small.
13. One salmon, 14 pounds; one black bass; suckers and silver eels, run small.
14. Two black bass; suckers and silver eels, run small.
15. One salmon, 12 pounds; suckers and silver eels, run small.
16. Suckers and silver eels, run small.
17. Suckers and silver eels, run small.
18. One black bass; suckers and silver eels, run small.
19. Suckers and silver eels, run small.
20. One black bass; suckers and silver eels, run small.
21 to September 1. A few suckers and silver eels.

Sept. 2. One black bass; a few suckers and silver eels.

Sept. 3. A few suckers and silver eels.
4. A few suckers and silver eels.
5. A few suckers and silver eels.
6. A few suckers and silver eels. Shut water out of fishway at 8 A.M. on account of low water; let water in September 7 at 1.15 P.M.
8. A few suckers.
9. A few suckers and silver eels.
10. A few suckers and silver eels.
11. A few suckers and silver eels. Shut water out of fishway at 7.30 A.M., low water; let water in September 14 at 1.30 P.M.
15. A few suckers.
16. A few suckers.
17. A few suckers.
18. A few suckers.
19. Three salmon, 12 to 20 pounds; suckers, run moderate. River has risen since yesterday; is rising rapidly to-day.
20. Two salmon, 12 to 18 pounds; suckers, run moderate.
21. Three salmon, 10 to 18 pounds; one black bass.
22. One salmon, 10 pounds; suckers, run moderate.
23. Suckers, run moderate.
24. Suckers, run moderate.
25. Suckers, run moderate.
26. Suckers, run moderate.
27. Suckers, run moderate.
28. Suckers, run moderate.

Fishway repaired during this time, water shut out a good part of each day.

29. One salmon, 8 pounds; suckers, run moderate.
30. Suckers, run small.

Oct. 1. Suckers, run small.
2. Suckers, run small.
3. Suckers, run small.
4. One black bass; suckers, run small.

From October 5 to date (November 8), no fish but suckers in the fishway. I understand that alewives were observed in Fish Brook this year. If so, the alewives placed in Haggett's Pond, Andover, two years ago, are returning; which goes to show how easy it would be to have a good supply of these fish in this pond and brook, if some one would spend a little time clearing out the brook. Black bass are on the increase in the river. They have been caught in considerable numbers between Lawrence and Lowell this season.

THOMAS S. HOLMES,
In charge of Lawrence Fishway.

Alewives.

The invention of a fishway in 1871, and its adoption by the commission, making it easy for migratory fish to pass over dams, however high, has resulted in a large increase of these fish. No inconsiderable part of the labor of the commission has been devoted to examining rivers and streams, and consulting and advising with those who had charge of these fisheries. Many streams from which they had been entirely destroyed have been reopened and successfully restocked.

Prior to 1875 the yearly catch of alewives in this State did not exceed one million. In consequence of the building of these fishways, and the advice and information imparted to those interested in the propagation of these fish, the catch rapidly increased up to 1882. The number caught that year was 4,446,605, an increase of nearly three million over any year previous to 1875, since the commission was established. The average yearly catch since 1882 has been 3,496,605. The increase of the last seven years over the seven years previous to 1875 has been 16,317,592. This does not include many fisheries from which no returns have been made.

The market value of alewives is from one dollar to a dollar and a quarter per hundred. At the lowest price, this increase — due directly to the action of the commission — amounts to $163,175.92. The alewife is eaten fresh, salted and smoked, and is largely exported to the West Indies. They are important, also, in supplying the "bankers" with bait at a season when they cannot obtain it elsewhere. The average annual value for the last seven years has been $34,966.05, and has amounted in the seven years to $244,762.35.

The increase of alewives has also an important bearing on the deep-sea fisheries. The young of the cod, haddock and mackerel seek the shallow waters along our shores as a means of protection from their enemies. In autumn countless millions of young alewives go down to the sea, filling our bays and estuaries with food for these fish. "Where their proper food is, there will you find all animal life." The bays and estuaries are the nurseries that supply the deep-sea fisheries.

Professor Huxley's statement that man cannot be considered a factor in lessening the great schools of migratory fish that traverse the ocean, does not avail against the fact that by the use of purse-seines and other modes of fishing which destroy a large percentage of the young, the mackerel fisheries along our coast are slowly but surely becoming every year less valuable.

Shad.

Sufficient is known of the habits of shad to class them among shore fish. They are gregarious, moving in schools like the alewife, but not migratory in the sense in which this term is applied to cod and mackerel. They are found along the coast in our bays and estuaries during a greater part of the year, frequently entering brackish water, and in the spring running up the rivers and streams for purposes of propagation. Their eggs never hatch in salt or brackish water, and, in order to continue the species, they must have access to fresh running water. Previous to their spawning they do not feed in fresh water, but after they have cast their eggs they will bite at flies or any small shining object that attracts their attention. A drop of solder, or a piece of silver on a hook, will enable the angler to catch at this season of the year either shad or alewives. The usual way, however, of taking them, is by means of weirs, seines and traps, — a mode of fishing which, if not carefully regulated, must, wherever used, end in their destruction.

As a commercial product it matters not where the shad is caught; but it is self-evident that, in order to continue the supply, enough must be allowed to go up the rivers for that purpose. Few fish are more desirable than shad in their season, or more easily propagated. From the earliest settlement of the country down to the present time, there has been a singular disregard of the conditions necessary to maintain these fisheries; and the consequence is, they are in many places rapidly decreasing. We have repeatedly called the attention of the fishermen to this fact, and endeavored to convince them that, unless there was a change in their method of fishing, there would eventually be no shad to catch; but, against their absurd ideas that every man has a

right to fish and shoot as he pleases, facts and argument have little weight.

In 1879, in consequence of artificial hatching on the Connecticut, shad were more plenty in that river than ever before known. This made fishing profitable, and the result was that the lower part of the river swarmed with pounds, weirs, gill-nets and sweep-seines. Knowing that the river could not stand this over-fishing, we appeared before the legislative committee of Connecticut, and urged, in justice to our State as well as their own, that a statute embodying reasonable regulations should be enacted to protect the shad of this river. We stated that, unless some decided action was taken, its fisheries would in a short time be destroyed, and no amount of artificial hatching could save them. But neither this statement nor the earnest advice of their own commissioners had any influence. No change was made, and the result is shown in the following record :—

Catch of Shad in the Lower Connecticut River.

1879,	436,981	1885,	190,300
1880,	269,918	1886,	117,950
1881,	351,678	1887,	80,350
1882,	272,903	1888,	68,450
1883,	177,308	1889,	42,325
1884,	150,045		

This shows a decrease of over ninety per cent. in eleven years. All profitable fishing on this river is at an end; most of the seines and gill-nets are hung up to rot, and many of the fishermen have been obliged to seek employment in some other direction. Pity they had not been obliged to do this before the mischief was done.

The pounds and weirs are but little better off. We learn on good authority that most of them did not pay expenses last season, and that many of them will probably not be set again. The folly of allowing a reckless set of men to patrol the mouths of our rivers with sweep-seines and gill-nets must be apparent to any one who has the slightest knowledge of our inland fisheries.

What has occurred on the Connecticut is being repeated, in a different way, at the mouth of the Merrimac, where, under the pretence of taking bait in June and July with

small-mesh sweep-seines, hundreds and thousands of young shad are taken and sold for bait at about one dollar per barrel. This should be stopped at once, and the *mouth*, which is the *doorway* to the river, be left free for the passage of migratory fish.

Until there spring up in the ranks of the fishermen a broader intelligence and a clearer comprehension of what is essential to the preservation of these fisheries, all efforts to maintain them must prove more or less unsuccessful. There was not the slightest need for the destruction of the great shad fisheries of the Connecticut. If the weirmen, gill-netters and seiners had united, with a fair amount of intelligence and a just appreciation of the rights of others, the fisheries could have been maintained at the point where the commissioners of the two States had brought them by artificial hatching in 1879. There are still breeding fish enough left in the river, could such action be had at once, to restore the shad to their former abundance. There were taken in the waters of this State in 1889 40,461 shad. The report of shad-hatching at North Andover will be found in the Appendix.

Trout.

In a large majority of cases, where reliable information has been obtained, the artificial stocking of streams with trout has been successful. In addition to the experiment made by the commission, detailed in former reports, another stream was selected for the same purpose. This stream formerly went dry about four months in the year; but, in consequence of the construction of a dam twenty-two feet high, near the head, for the purpose of creating a reservoir, depending chiefly upon the water shed, it became a continuous brook, about half a mile long; the water supplying it during the summer months would not have filled a ten-inch pipe. Into this stream, two years ago, was turned the trout fry gathered from the hatching troughs after the distribution for the State was made, — not over two thousand fish.

An examination of the stream last September showed that it was full of trout from six to eight inches long. They were found the whole length of the stream, while in the pools, of which there were several, there were counted from fifteen

to thirty in each. The superintendent informed us that during the overflow he had several times seen them in the wasteway, passing up into the pond.

The success attending the propagation of trout has led to the formation of several associations in different parts of the State, that are now engaged in constructing hatching works, for the purpose of restocking streams in their vicinity. As these associations are spending money and laboring to increase the fish in waters open to the public, the State should assist and encourage them, on the same principles on which it fosters and encourages agricultural societies. Their waters should be protected from the persistent loafer who hangs about day after day, catching fingerlings for the market; and authority should be given to the commission to close streams that are being restocked, for a period not exceeding three years.

Arrangements were made last year to increase the number of trout fry for distribution. There will probably be about five hundred thousand to be delivered to applicants next April and May. They will be delivered free at the hatching house, Winchester, Mass., and cans will be furnished for transportation, to be returned to the hatchery at applicant's expense. All applications should be made before the first of April, endorsed by either senator or representative of the district. Trout fry cannot be entrusted to the express, and a responsible person should be sent to take charge of them. Such a person can take charge of twenty-five or thirty thousand fry, and, when several applicants reside on the same line of road, expense may be saved by arranging with one competent man to care for several cans to be distributed along the route.

Salmon.

As predicted in the report of last year, there was an increase in the run of salmon in the Merrimac this year. If the dam at Livermore Falls had been completed so as to turn all salmon that reached there into the fishway, a much larger number would have been secured for breeding purposes. As it was, the number of eggs secured was nearly double that obtained any previous year. There was an

abundance of water through the whole season, at times so much that the nets could not be set. The salmon continued to run through the summer, some being seen in the Lawrence fishway as late as September 29.

The river is open to hook-and-line fishing, and there are doubtless many places along the river where, at the proper season, they could be taken. For further information on this subject we append the following report of E. B. Hodge, superintendent of the joint hatchery at Plymouth, N. H. : —

To the Commissioners on Inland Fisheries for the Commonwealth of Massachusetts.

Gentlemen : — I herewith submit my annual report of the work done at this station for the year ending Dec. 1, 1889.

The run of salmon in the Merrimac this season has been the largest of any year since I have had charge of the works. The first salmon reached here about the 15th of June ; but, owing to the high stage of water in the river, the nets were not put in until the 21st. Over fifty salmon were taken, while many more went over the falls to the spawning grounds in the upper part of the river. Two hundred thousand eggs were taken, and are now in the hatchery. They are a fine lot, and the eye specks are now visible. The loss will be very small.

The fish did not run as large as last year, only averaging from ten to twelve pounds. Several grilse of three and four pounds weight were taken in the nets, but were allowed to pass up the river. The young salmon were very plenty until the last of August, at which time they seemed to be going down the river.

The number of salmon taken in the pounds represent only a small part of the fish that enter the river. Many of them find suitable spawning grounds in the rapids that extend for miles below the hatchery ; while others go up over the falls during the summer freshets, when, owing to the volume of water and the large amount of drift-wood, it is impossible to keep the pounds in position.

The number of young salmon fry planted in the Pemigewasset River in May was a little less than six hundred thousand. They were deposited at various points, from one to twenty miles above the falls.

There are now one million brook-trout eggs laid down in the hatchery, of which five hundred thousand will be sent to Mr. Brackett at Winchester as soon as sufficiently developed. This is an increase of three hundred thousand over last season. This

increase is due to the growth of the trout purchased the past three years.

As instructed, I sold two hundred pounds of the large male trout from the breeding ponds, for which I received eighty dollars. This money was used in part payment of wild trout purchased, of which I have added 6,187, from four to eight inches in length. The price paid for these fish was three dollars per hundred, delivered at the hatchery. The addition of these trout will add materially to the number of eggs another year, and will also necessitate the building of more tanks and ponds for their accommodation.

There are now about four hundred pounds of the surplus male trout that should be disposed of another spring, and the money used to purchase wild trout.

Since the adoption of the new-shaped landing nets three years ago, not a single salmon has been lost by that fatal disease, — fungus. I have adopted the same style for the trout-nets; and, in handling the many fish required to produce one million eggs, not a single spot of fungus has been seen.

The station is now in good repair, and well equipped for the work for which it is intended.

Respectfully yours,

E. B. Hodge, *Superintendent.*

Plymouth, N. H., Dec. 2, 1889.

Lobsters.

Last year the commission inspected the lobster fisheries along the coast, from New Hampshire to the Rhode Island line, giving as nearly as possible a detailed statement of the number of men engaged in the fisheries, number of traps and of marketable lobsters caught, with the estimated value of the same.

In the hearing before the legislative committee on fish and game, for the purpose of devising some means for the better protection and possible increase of this valuable crustacean, it was charged that the report was unreliable; that the catch was more than double what we had estimated; and that, by our misrepresentations, we had led the Governor to call the attention of the Legislature to the decrease of these fisheries. These charges, made by eminent counsel, would have been passed unnoticed had they not found a wide circulation in

the daily papers, thereby tending to shape public opinion in the wrong direction. The answer to these charges will be found by comparing our estimates for 1888 with the sworn returns of the fishermen for 1889 : —

1888. Number of men, 367 ; traps used, 22,310. Total catch, 1,740,850.
1889. Number of men, 344 ; traps used, 20,016. Total catch, 1,359,645.

To this (for 1889) should be added 61,832 egg-bearing lobsters, reported as returned to the water alive ; but this, and the estimated returns of short lobsters under ten and one-half inches, should be taken with some allowance, as they were liberated near the traps where they were taken, and many of them were no doubt recaptured several times.

The experiment of hatching lobsters was only partially successful. The hatching boxes, being floated, were subject to the motion of the waves, which at times was sufficient to destroy the vitality of the eggs. They also suffered somewhat from heavy rains. There are several methods by which these difficulties can be overcome ; but probably the most effectual would be to place the spawn in a house prepared for that purpose.

The experience of the past season indicates that the lobster spawn does not hatch until the water reaches a temperature of 52 degrees F., no matter at what time of year the eggs are deposited on the swimmerets. It is probable that the female carries them until the water reaches that temperature before they hatch.

At Chatham and Monomoy the fishermen claimed that the water was so warm that they could not keep lobsters alive in floating cars, and that they were obliged to sink them. Some experiments tried there by Mr. Proctor appeared to confirm the statement. Owing to the high temperature of the surface water, his effort to hatch lobsters at Chatham in August was almost a failure.

From the 9th to the 23d of June, there were hatched and turned into Salem harbor over two million young lobsters.

The work of carrying out these experiments was entrusted to the chairman of the Board. On the 19th of June his term of office expired, and the vacancy was not filled until the 9th of October. This materially interfered with the

labor of the commission in this direction, which should be continued, and every possible effort made to protect and increase the lobster fisheries.

The law on short lobsters may require some slight amendment. This, with the Act of 1889, chapter 109, which passed the Legislature by a unanimous vote, appears to be all the law required at present for the protection of the lobster fisheries; and these laws are heartily supported by the better class of these fishermen. They, however, complain bitterly that there is a class who constantly violate them, thereby taking advantage of those who honestly comply with the requirements.

Laws do not enforce themselves; and, if we desire to retain the assistance and co-operation of the better part of the fishermen, prompt action should be taken to protect all alike. This cannot be done without an efficient patrol boat, and a small force on land, striking the illegal traffic at both ends. The boat used during the past season is not sufficiently strong to stand rough weather, and is not always safe to be used when most needed. We therefore recommend that it be sold, and that the Legislature grant the means to procure one more suitable for the purpose. In no other way can the work of protection and increase of the lobster fisheries be carried out.

It is for the Legislature to say to what extent an industry, yielding an annual return of one hundred and fifty-six thousand dollars, with a certainty of being largely increased, shall be encouraged. It is an industry that in no way conflicts with any other, and, if not properly protected, will cease to be of value.

The excellent law passed by the last Legislature, giving back to the water so many egg-bearing lobsters, would of itself pay all reasonable expense in maintaining it. It is to be borne in mind that, for the first time in the history of lobster fisheries in this State, the egg-bearing lobsters have during the past season been returned to the water alive. Making due allowance for the retake and recount of the same lobsters, it is safe to estimate the number thus returned at forty thousand; and, allowing thirty thousand eggs to each lobster, which is about the average, the total number

of eggs would be one billion, two hundred million. It is true that the lobster has many enemies besides man; yet the saving of this vast amount of spawn, which has hitherto been destroyed, cannot fail, if continued, to become an important factor in increasing the number of this valuable crustacean.

There was received this year 352 returns of weirs, seines and gill-nets, being a gain of 88 over last year. All kinds of seines have been tabulated under the head of gill and sweep nets.

The number of shad taken in the waters of this State for the year 1889 was	40,461
Taken in fresh water,	8,143
An increase over 1888 of	966
Taken in salt water by weirs and gill-nets,	32,318
A decrease from 1888 of	108,739
The returns show a decrease from 1888, in the catch of scup, of	336,789
Squeteague,	89,208
Mackerel,	2,640,286
Spanish mackerel,	1,795
Bluefish,	165,179
Flounders,	104,726
Alewives,	150,000
There has been an increase in the catch of —	
Sea herring,	12,249,666
Menhaden,	2,790,316
Striped bass,	3,139
Tautog,	2,111
Eels,	180,949

As the king fish, sea bass, butter fish, frost fish and bonito have never been tabulated, it is impossible to make a comparison with former years of the catch of these fish. In the returns of other edible fish there is a decrease this year of 859,427.

In comparing the returns of 1889 with those of 1888, it should be borne in mind that there is an increase of 88 returns for this year over 1888. Some of the weirmen and gill-netters have been negligent in making their returns, necessitating the sending of duplicate notices, reminding them of their tardiness in complying with the law. While the returns are supposed to give the number of fish taken by these methods of fishing, there has not heretofore been any

effort made to obtain the total value of the catch. The law does not compel the fishermen to furnish this information, and it can only be done by their frank co-operation with the commission in their efforts to obtain reliable statistics of the fisheries of this State. We hope to be able in our next report to supply this deficiency.

The returns from 344 lobster fishermen give 20,016 traps used, and 1,359,645 marketable lobsters; also 61,587 egg-bearing lobsters returned to the water alive. The estimate of short lobsters returned to the water alive is, we regret to say, in some instances unreliable, and apparently intended to mislead. At least it must be taken with a great deal of allowance, as the same lobster may be caught several times in the course of the season.

The labor of the commission since last January has been double that of any previous year. In addition to routine work, there have been hatched and turned into the water more than two million young lobsters; the coast has been patrolled, and the law of 1889, which compels the return of all egg-bearing lobsters to the water alive, has been fairly enforced. This, at the lowest estimate, has saved more than one billion two hundred million lobster eggs, which have hitherto been destroyed.

There have been made 146 prosecutions. The fines paid, together with the liabilities of defendants in cases pending in the supreme court (which there is good reason to believe will be decided in favor of the State), will amount to $43,360.

Birds and Game.

The present season continues to show the good effects of the law and the education of the people in support of it; yet our legislation does not keep pace with most of the other States. With thousands of acres of woodland, sprout land and swamp, we may keep with us in increasing quantity our game birds, if the Legislature will equip us with efficient law, and the means to enforce it. A non-export law is needed, and is almost essential for the proper preservation of the game birds. Thousands of our quail and ruffed grouse are every year captured and killed by men who make market hunting their occupation, and shipped to the New York

market, where larger prices are obtained than can be got in Boston or in any of our home markets. Our State is invaded every season by parties from other States, professional market hunters, who butcher our birds for profit, and who come here for no purpose but the killing of our game birds and shipping them to outside markets, thus making merchandise of the game which we preserve for the use and enjoyment of our own citizens.

Connecticut has in successful operation a non-export law, supported by all classes of her people, and by none with more enthusiasm and effect than the farmers.

The appointment in our agricultural counties of game wardens, armed with efficient authority of search and arrest, and under pay, is desirable. Competent men can be obtained in every county, enthusiastic in this endeavor, who for small remuneration would make this business in its proper season a matter of earnest pursuit. We recommend such an enlargement of the law.

Uniformity concerning the close season is desirable. If the law now allowing the killing of quail up to January 1, yet prohibiting the killing or taking of ruffed grouse after December 1, were made uniform in its application to both grouse and quail, by so amending it as to make the close season for both December 15, it would be an improvement, and we believe satisfactory to all parts of the Commonwealth.

Shooting, hunting and fishing on Sundays is becoming more and more common, and is a great annoyance to law-abiding and law-loving people. The firing of guns in the country places almost under the eaves of churches, in and out of service hours, is not only a violation of existing law, but a desecration of the day especially offensive to devout and Christian people. The law upon this matter should be more stringent and more effectively enforced. The larger part of illegal shooting and fishing is done upon the Sabbath day, and it is done by the lawless element of our population, who care but little for law, and less for the sensibilities of orderly and reputable people. If the commissioners and their deputies were invested with authority to arrest without warrant in certain cases, coupled with the power of search, this pernicious practice could and would be largely broken up.

The English sparrow is a continuing and increasing evil. The time is near when the agricultural interests will demand, as they are now entitled to do, some remedy for the restriction if not the destruction of this malicious marauder. The pillage of small fruits and grains is his delight. Destruction of these, together with the eggs and the young of our native birds, is his occupation and enjoyment. Scientific search and examination have determined the fact, that as an insect destroyer the bird is a delusion, and is vastly inferior to many of our native birds whom he destroys and drives away.

Permits.

The following parties have been granted permits to take eggs and birds for 1889 : —

Geo. W. Evans,	North Tisbury.
A. C. Bent,	Taunton.
A. P. Morse,	Sherborn.*
Harry G. White,	Lawrence.
Dr. W. R. O'Connor,	Lawrence.
William Brewster,	Cambridge.
C. F. Batchelder,	Cambridge.
C. W. Chamberlain,	Boston.
Howes Norris, Jr.,	Cottage City.
Edgar W. Huckins,	Watertown.
Edward C. Mason,	Arlington.
Geo. H. Mackey,	Boston.
Alfred B. Copeland,	Springfield.†

Prof. F. W. Putnam, who has faithfully served on the commission since 1881, has this year retired from the Board. His relations with his colleagues have always been cordial, and the devotion, self-sacrifice and signal ability with which he has always labored for the public good, entitle him to the respect and gratitude of all who are interested in the preservation of our fish and game. The cause which led to his resignation is fully explained in a letter of Professor Putnam to the Governor, of which the following is a copy : —

In Camp Serpent Mound Park, Adams County, Ohio,
Aug. 7, 1889.

To His Excellency Oliver Ames, *Governor of Massachusetts.*

Sir : — It has just come to my knowledge that Mr. Brackett was not confirmed by the council, owing largely, as I understand,

* For Wellesley College. † For Massachusetts Agricultural College.

to the feeling that there should be some one on the commission who should be from some other portion of the State, Mr. Brackett and myself being both from one and the same region. If I am correct in this supposition, there is no question in my mind who should step aside to make room for the new member. I therefore respectfully and most heartily tender the resignation of my commission, that Mr. Brackett may be reappointed. This is entirely in keeping with all my acts since I have been on the commission, as I have ever been ready to make a personal sacrifice for the good of the State; and I have held the office of commissioner all these years simply because it was thought by Governor Long and yourself that I could fill the office in a manner creditable to the State. As I knew nothing of my first appointment until Governor Long asked me to accept it, and, as you well know, I neither asked for nor expected the renewal of the honor at your hands, I have been perfectly free and independent while holding the office, and have been animated by a single motive, — the good of the Commonwealth, wholly regardless of the many axes which parties in various parts of the State have wished to grind at the public expense.

The time has come now, in my estimation, when I can serve the State better by withdrawing from the commission than by remaining upon it, when by doing so the services of a man ten times more valuable in all the many interests connected with the commission can be retained for the State. In Mr. Brackett the State would have the entire service of a man devoted to the work of the commission, and one who is better qualified than any other man in the State for the position; and I venture to hope that you will kindly accept the resignation I herewith most respectfully tender, that the Commonwealth may continue to have the services of Mr. Brackett.

I have the honor to be, sir,

Your obedient servant,

F. W. Putnam.

[Copy.]

Commonwealth of Massachusetts.

Executive Department, Boston, Oct. 20, 1889.

Prof. Frederick W. Putnam, *Cambridge, Mass.*

Dear Sir: — I am in receipt of your letter, by which you tender the resignation of your membership in the Inland Fisheries Commission. I hereby accept the same. I do this reluctantly, but I feel that I must, if the services of Mr. Brackett to the Commonwealth are to be continued.

Permit me to say to you, that, in the performance of the duties of the office from which you now retire, you have done valuable work for the people of the Commonwealth, and that that work is appreciated by all who know anything of its nature.

With the certainty that you continue to take an interest in the fisheries of the Commonwealth, and the feeling that you will never fail to manifest that interest when occasion may demand,

I am yours sincerely,

Oliver Ames.

[Copy.]

Harvard University, Cambridge, Mass.,
Dec. 7, 1889.

To His Excellency Governor Ames.

My Dear Governor Ames: — In acknowledging the receipt of your communication, in which you formally accept my resignation from the Commission of Inland Fisheries, I wish to thank you for the kind words with which you accompany the official letter. You may feel sure that I shall watch the work of the commission with great interest, and that I shall be ready to give it any aid in my power.

With the hope that you will soon be restored to full health and strength, I remain,

Faithfully yours,

F. W. Putnam.

Respectfully submitted,

EDWARD A. BRACKETT.
EDWARD H. LATHROP.
ISAIAH C. YOUNG.

COMMISSIONERS ON FISH AND GAME.

Commissioners.

E. A. Brackett, services,	$950 00		
E. A. Brackett, expenses,	84 51		
		$1,034 51	
E. H. Lathrop, services,	$170 00		
E. H. Lathrop, expenses,	231 07		
		401 07	
F. W. Putnam, services,	$62 50		
F. W. Putnam, expenses,	54 35		
		116 85	
			$1,552 43

General Expenses.

Fish hatching privilege, Winchester,	$50 00	
Labor and material at Lawrence fishway,	86 34	
Printing,	103 35	
Stationery,	16 80	
Postage,	39 85	
Legal services,	41 77	
Clerical services,	73 00	
Expressage, etc.,	3 85	
Drawings of lobster box,	8 00	
Lobster boxes,	66 32	
Lobsters,	24 40	
Plans of fishways,	48 00	
Lumber,	27 08	
Brushes,	1 20	
Magnifying glass,	1 25	
Hardware, etc.,	81 54	
Hire of steamer "Geo. W. Hunt,"	138 41	
Teaming,	34 12	
Labor,	44 00	
Wm. H. Mears, services,	115 00	
Rent of carp pond,	10 00	
Bread,	19 25	
E. A. Brackett, deputy, services,	$550 00	
E. A. Brackett, deputy, expenses,	65 06	
	615 06	
		1,648 59
Amount carried forward,		$3,201 02

Amount brought forward,		$3,201 02

Joint Hatchery at Livermore Falls.

E. B. Hodge, services,	$458 30	
Assistance,	187 35	
Freight,	8 38	
Express and teaming,	12 00	
Postage,	5 00	
Fish meat,	34 15	
Cutting ice,	1 25	
Insurance,	4 00	
Twine,	4 00	
Cans,	16 00	
Rent of land,	25 00	
Planting salmon,	9 00	
Brook trout,	50 05	
		814 48

Shad Hatching Establishment, North Andover.

B. P. Chadwick, services,	$222 00	
B. P. Chadwick, expenses,	134 75	
Twine, etc.,	1 95	
Expressage,	6 02	
Labor,	90 00	
Rent of land,	50 00	
		504 72

Expenses of Steamer "Laurena."

Balance paid for steamer,	$1,100 00	
Repairs,	366 03	
Storing and launching,	20 00	
Supplies,	191 77	
Compass, log, and marine glasses,	58 00	
Findings,	250 06	
Boat, oars and anchor,	20 25	
Coal,	79 18	
Flags and rope,	15 24	
Geo. A. Evans, engineer, services,	420 00	
Geo. A. Evans, engineer, expenses,	51 57	
E. S. Martin, services,	219 00	
E. S. Martin, expenses,	25 93	
E. B. Thing, services,	124 00	
Advertising boats,	6 00	
		2,947 03
		$7,467 25

APPENDIX.

[A.]

Winchester, Oct. 1, 1889.

To E. H. Lathrop, *Commissioner on Inland Fisheries and Game.*

Dear Sir: — I reached home from Plymouth, N. H., whither I had accompanied you for the purpose of inspecting the hatchery at that place, July 18, at 10 P.M. I found that during my absence telegrams had been received, stating that there were large steamers in Buzzard's Bay, engaged in illegal fishing. Mrs. B., not being sure at what time I would return, had already telegraphed to Mr. Proctor to look after them. Knowing that he had not a sufficient force to cope with these steamers, I had an interview with Chief Wade as early as possible the next morning. Finding that he hesitated about detailing the number of men required, I at once communicated with the governor, who promptly requested the chief to see that the law was maintained.

Mr. Wade accompanied his men to New Bedford, and on board the tugboat chartered for the purpose of looking after the steamers. Mr. Wade did as I should have done had I been in his place, — put the expedition under the charge of your officer, W. H. Proctor, whose knowledge of the sea and of this particular mode of fishing admirably fitted him for the position. The result was that two steamers were captured, the "A. T. Serrell" and the "Seaconnet," and taken to New Bedford. The steamers were libelled and bonded for $15,000, and the officers and crews brought before the court and convicted.

It was supposed that this prompt action would prevent any further illegal fishing, but in this I was mistaken; for instead of yielding, the officers of the steamers were defiant, and the captain of the "Joseph Church" was reported as threatening that no Massachusetts officer could board his boat, and live.

Mr. Proctor reported to me in person, September 5, stating that a fleet of steamers had again entered Buzzard's Bay, and among them the "Joseph Church;" and that the State police were engaged at fairs and elsewhere where they were required, and he saw no way to get the necessary help. I went with him at once to the chief's office, and had his statement confirmed. The chief did not feel that he had a right to withdraw his men from the places to which they had been detailed. I again found it necessary to communicate with His Excellency the governor, whose prompt

orders resulted in giving to Mr. Proctor ten officers selected for the work. With this force Mr. Proctor captured the steamer "Joseph Church," the captain and crew. They were taken to New Bedford, the steamer libelled and bonded for $20,000, and the captain and crew brought to court and convicted. Captain Church did not kill anybody, nor did he take the officers to Rhode Island, as he tried to do; but his conduct was such that Mr. Proctor was compelled to put him and his mate in irons.

Great credit is due to all the men who assisted in this work and to no one more than to Deputy Sheriff Hurley of Wareham, who was in the right place at all times.

The parties were tried and convicted both at the preliminary examination and in the superior court, and the cases are now pending in the supreme judicial court on exceptions.

Since the seizure of these steamers, Mr. Babson of Gloucester, president of the Fish Bureau, has published a remarkable letter,* sympathizing with and advising these marauders from another State, who knowingly and defiantly trampled on the laws of Massachusetts, to carry their case to the United States supreme court, and intimating that the weirmen of this State should co-operate with them. To this no one opposed to the weirs can object; for, if the decision of the supreme court should be in the direction in which Mr. Babson is so confident that it will be, the weirs will be without authority, for they are now sustained by the laws of Massachusetts, under the supposition that she has a right to control her fisheries within the three-mile limit.

Yours truly,

E. A. Brackett, *Deputy Commissioner.*†

Babson vs. the United States Supreme Court.

To the Editor of the "Standard."

In event of a decision adverse to them, it may transpire that the menhaden men will consider the advisability of testing in the United States supreme court the jurisdiction of Massachusetts over the waters within her own limits, and her right to legislate for their protection. Such a course is recommended and avowed. This being so, the decision of that tribunal in the case of Smith *vs.* Maryland becomes very interesting reading at the present time. The case arose from the seizure by the Maryland authorities of a

* See "Babson *vs.* United States Supreme Court," page 32.

† Pending the reappointment of Mr. Brackett, he was appointed deputy by the Board, to assist in carrying on the work.

fishing craft, enrolled at the port of Philadelphia, and licensed by the United States to be employed in the coasting trade and fisheries, for violating a State law relating to the taking of oysters in Chesapeake Bay. It may be found in 18 Howard, 71, and is entitled, "Isaac R. Smith, owner of the sloop 'Volant,' plaintiff in error, *vs.* the State of Maryland." According to the syllabus, the court held as follows: —

The soil below the low-water mark in Chesapeake Bay, within the boundaries of Maryland, belongs to the State, subject to any lawful grants of that soil by the State or the sovereign power which governed its territory before the Declaration of Independence. But this soil is held by the State not only subject to, but in some sense in trust for, the enjoyment of certain public rights, among which is the common liberty of taking fish, as well shell-fish as floating fish. The State has a right to protect this fishery by making it unlawful to take or catch oysters with a scoop or drag, and to inflict the penalty of forfeiture upon the vessel employed in this pursuit. Such a law is not repugnant to the constitution of the United States, although the vessel which is forfeited is enrolled and licensed for the coasting trade under an act of Congress. Neither is it repugnant to the constitution, as interfering with the admiralty and maritime jurisdiction of the judicial power of the United States. Nor is the law liable to an objection that no oath is required before issuing a warrant to arrest the vessel. That clause of the constitution refers only to process issued under the authority of the United States.

Associate Justice the Hon. Benjamin R. Curtis delivered the opinion of the court in this case, and among other things said: —

The State holds the propriety of this soil for the conservation of the public rights of fishery thereon, and may regulate the modes of that enjoyment so as to prevent the destruction of the fishery. In other words, it may forbid all such acts as would render the public right less valuable, or destroy it altogether. . . . Our opinion is that so much of this law as appears by the record to have been applied to this case by the court below, is not repugnant to the clause of the constitution of the United States which confers on Congress the power to regulate commerce.

How stands the fulmination of Captain Babson in the light of this record? This case came on in 1855, and the sloop people appeared holding in one hand a copy of the constitution of the United States, wide open at article I, section 8. In the other was brandished a United States license. Later on they learned that the constitution is not clothed with unlimited power, and that a United States license is not "supreme."

It looks very, very much like a head wind and a head tide for the menhaden men. They had better drop anchor.

ARTHUR MARTIN.

WASHINGTON, Sept. 30, 1889.

Report of Wm. H. Proctor, District Police. — Enforcement of Laws.

Swampscott, Nov. 20, 1889.

Commissioners on Inland Fisheries and Game.

Gentlemen: — As district police officer, detailed for the use of the commission, I respectfully submit the following report.

Fish.

My attention was called in the early part of the year to violations of the smelt law at Weymouth and Hingham. After watching nights for more than a week, I detected parties taking smelt in Weymouth River by the use of a seine, and brought them into court. I have also been called to Springfield, Grafton Centre, Hingham, West Medford and Winchester, on account of violations of the fish laws, and have brought the offenders before the courts. Assisted by the district police, I have seized three steamers, and arrested their captains and crews for violating the fish laws of Massachusetts, by seining in Buzzard's Bay.

Lobsters.

April 1, 1889, I sent to each lobster fisherman a blank, to be filled out by him with number of traps used and daily catch; also a copy of the laws in relation to lobsters; and at the same time forwarded blanks to the men using weirs, pounds and nets. I have inspected the coast in a small steamer the past summer, and spent a portion of the time in collecting, hatching and distributing lobsters. I found that nearly all the fishermen comply with the law in relation to egg-bearing lobsters, by immediately returning them alive to the water. The fishermen in the vicinity of Vineyard Sound, who in former years shipped thousands of small lobsters to New York in smacks, are now generally law-abiding citizens, and are finding large, marketable lobsters more plenty than before.

There are more violations of the lobster laws in Essex County than in any other part of the State. Here some of the fishermen break off the tails of the small lobsters before they are landed from their boats, shock, and then sell the meat to beach houses and free-lunch saloons. It is almost impossible to get a conviction for this offence under the present law. An experienced eye can easily detect this, but it is difficult to prove it; and so the defendant gets the benefit of the doubt. There is only a small percentage of the fishermen, however, who engage in this unlawful traffic.

If there could be a law passed prohibiting the mutilation of live lobsters, it would be a great benefit. I spent a part of my time during the months of July, August and September in making investigations and experiments on the south side of Cape Cod. This place has heretofore been noted for its violations of the lobster laws. The prosecutions made here last year, the presence of the police boat this year in these waters, and, what is still better, a growing feeling of respect for the law among the lobster fishermen, made it unnecessary to make any prosecutions for violations of the lobster laws. Such complaints as came to me from Massachusetts Bay, while stationed here, were referred to Deputy Commissioner B. P. Chadwick.

The following is the list of persons arrested, and the results of the trials in court: —

1888.

Nov. 18. Thomas E. Stone of Swampscott, lobster law $20 and costs

1889.

Feb. 5. Frederick Johnson of Grafton Centre, violation of fish law, $20 and costs.

23. Edward Russell of Winchester, violation of fish law, $1 and costs.

March 20. Thomas Scanlon and Thomas Joyce of Lynn, mutual assault, $15 and costs each.

April 13. Wm. Johnson and Cornelius Burke of Woburn, violation of fish law, cases filed on payment of costs.

19. Louis Farrell of Hull, violation of smelt law, $60 and costs.

June 15. Henry Cotton of West Medford, violation of fish law, $25 and costs.

15. Elihu B. Cross of West Medford, violation of fish law, $25 and costs.

15. Patrick O'Brien of Arlington, violation of fish law, $25 and costs.

Sept. 16. Edward M. Dennis, George Corey, Frank E. Almy, Henry A. Rounds, Nathaniel D. Dennis, Frank O. Grinnell, Benj. F. Wilkie, Arthur Manchester, Edgar Grinnell, Jesse H. Wilcox, Leander McLane, Levi P. Martin, Antoine Carter, Rane Cathon, Sydney F. Geyer, George I. Eldredge, Elisha F. Sisson, John Carlyle, Benj. F. Davenport, Sam'l M. Rose, Edward Gray, Newell McLane, Capt. Geo. L. Church, Philip D. Conway, Wm. McDonald, Andrew J. Engley, of Tiverton: Wm E. Reed of Providence: Philip H. Gray of New Bedford; Napoleon B. Rose of Block Island; Chas. H. Sisson, Frank A. Dennis, of Westport; Geo. H. Hamlin of South Carolina: Frank E. Weston of Bremen, Me.; Alfred Waltz, Chas. L. Engley, Elmer K.

Engley, of Waldoborough, Me.; Nicholas Roach of Newfoundland; Melvin Bennett of Boothbay, Me.; Chas. F. Leeman of Knightsville; Herbert A. Brightman of South Westport; Joseph H. Leeman of Bristol.

(The above forty-one men, for violation of the fish law, were fined $100 and costs each.)

July 20. Steamers "A. T. Serrell" and "Seaconnet" were bonded fifteen thousand dollars.

Sept. 9. Edward Hoffman of Springfield, violation of fish law, $25 and costs.

10. Steamer "Joseph Church," libelled and bonded for twenty thousand dollars.

19. Charles L. Prescott, Geo. H. Thurber, of Quincy, and Sam'l Gregory of Weymouth, violation of smelt law, $850 each.

Nov. 6. C. E. Gove of Nahant, mutilated lobsters, discharged; not marking lobster car, fined $10 and costs.

The cases of the steamers, and the Prescott smelt case, have been tried in the lower courts and convicted, from which an appeal has been taken to the supreme court.

Respectfully submitted,

W. H. Proctor, *District Police.*

Report of B. P. Chadwick. — Enforcement of Laws.

Bradford, Oct. 20, 1889.

To the Commissioners on Inland Fisheries.

Gentlemen: — As one of your deputies, appointed to enforce the fish and game laws of the State, I submit the following report. Since March 1, I have made 36 seizures, and have had 34 persons brought before the courts.

No. of persons convicted, ...	30
No of persons discharged, ...	4

The following list gives the names and place of residence, with the amount of fine, in each case: —

Total amount of fines and costs imposed, . . . $723.60

For violation of game laws: —

March 9. J. E. Burns of Lowell, fined $20 and costs.

13. Geo. H. Averill of Salem, fined $10 and costs.

14. Geo C. Blanchard of Worcester, fined $20 and costs.

27. Homans and Putnam of Haverhill, discharged.

For violation of smelt law: —

April 3. C. L. Jenkins of Worcester, fined $10 and costs.

For violation of scallop law: —

April 8. Arthur Eliott of Salem, fined $10 and costs.

11. Geo. E. Deering of Worcester, fined $2 and costs.

For violation of lobster laws: —

March 9. Grey Brothers of Lowell, fined $5 and costs.
9. Wm. H. Sullivan of Lowell, fined $20 and costs.
20. G. P. Cobb of Worcester, fined $15 and costs.
20. Fisher & Warren of Worcester, fined $15 and costs.
21. C. M. Allen of Lowell, fined $20 and costs.
29. Lothrop Clark of New Bedford, fined $15 and costs.
29. A. F. Childs of New Bedford, fined $10 and costs.
April 9. C. S. Oliver of Natick, fined $15 and costs.
23. I. H. Craig of Lawrence, fined $10 and costs.
July 12. Fred Parsons of Gloucester, fined $25 and costs.
17. Geo. S. Seeley of Beverly, fined $15 and costs.
22. William Stopford of Beverly, discharged.
22. Geo. S. Seeley of Beverly, fined $30 and costs.
24. J. H. Barter of Beverly, fined $10 and costs.
25. Fred Parsons of Gloucester, fined $135 and costs.
29. William Stopford of Beverly, fined $10 and costs.
31. R. S. Hewlett of Newburyport, discharged.
Aug. 12. C. A. Skeels of Amesbury, fined $40 and costs.
16. Charles Bailey of Ipswich, fined $10 and costs.
16. William B. Joy of Ipswich, fined $10 and costs.
16. James M. Flanagan of Groveland, fined $10 and costs.
21. W. B. Atkinson of Ipswich, fined $10 and costs.
23. Geo. Reynolds of Fall River, fined $10 and costs.
24. J G. Childs of New Bedford, discharged on payment of costs.
24. W. A. Bassett of New Bedford, discharged on payment of costs.
24. Lothrop Clark of New Bedford, discharged.
Sept. 9. Charles Bagley of Salisbury, fined $10 and costs.

In the month of March I made several seizures of hares, rabbits and gray squirrels, from dealers offering the same for sale in the close season. As this was the first attempt that has been made by me to enforce the law of 1886, I thought it best to make but one complaint in each city where the seizures were made, hoping one example would be sufficient to warn other dealers that the law would be enforced. The result was as expected, and there was an immediate closing of the traffic. The parties complained of were convicted and fined, with one exception; this case occurred in Haverhill, and terminated with such an interpretation of the law as leads me to report the particulars. The party was charged in the complaint with offering eight hares for sale in the close season. The defendant pleaded not guilty, and testified in the case, admitting the possession, the offering for sale, and the seizing of the hares by the complainant; but pleaded ignorance of the law, and claimed to be unable to see why he should be complained of when

others had been permitted to sell. The court ruled that the object of the close season for the sale of hares was to prevent the killing of them in the month of March; and, as the defendant was not charged with the killing, or even supposed to have killed the hares, he should discharge him, — thus ruling that the defendant should be discharged for one offence, on the ground that he had not been a party to the committing of another. I was amused, as well as surprised, at this method of reaching a verdict.

As regards the violation of the lobster laws, there has been quite an improvement this season in the business of selling small ones by the retail dealers, and a large majority refuse to allow them on their premises. Some of the catchers and wholesale dealers still endeavor to force them upon the market, and in several instances they have paid the fines put upon the retail dealers. This has had a tendency to make them more careful as to the measure of the lobsters when sent to market. As the object of the law becomes more fully understood, the less complaint there is when it is enforced; and, as nearly all the retail dealers find it difficult at times to get a supply of lobsters, they realize and freely admit that something must be done to protect them, or the end of the traffic will soon be reached. Small lobsters are frequently used by those engaged in the catching of cunners, as they make a cheap bait, and one that is lasting. The owners of the vessels visit the catchers every few days, to purchase, the catcher having previously secured the same, and deposited them in a sunken car or box, safely anchored with a buoy attached. He thus runs but little risk in delivering them, as he knows his customers, and the business is transacted miles away from the land. Should the officer by any chance find such a deposit, all he can do is to liberate the lobsters, as it is next to an impossibility to prove the ownership of such contraband goods. We are glad, however, to know that a large majority of the catchers condemn this practice, and this kind of traffic is confined to the few. Sometimes a catcher is so unwise as to use small lobsters as an article of bait for his traps, never for a moment stopping to consider the amount of injury he is doing to his own business, but comforts himself with the thought, "You little fellows will not trouble my trap any more," — a system of reasoning which will prove too true. As a remedy for this evil, all traps found baited with small lobsters should be destroyed. The practice of shocking small lobsters for use at the beach houses and saloons is on the decrease. This is a positive injury to those who engage in it. This work is confined to the very lowest class of the catchers, and no person who has any regard for the prosperity of the lobster industry would engage

in it. The killing of a dozen eight-inch lobsters for the sum of twenty cents is an offence for which a person should be severely punished. One of this class of offenders was brought before the court this season, and fined $135.

The increasing demand, in connection with the advance in price, has induced a large number of fishermen that have hitherto been engaged in the taking of other fish to try their hand in the business of catching lobsters; and the result is, there are too many traps for what is considered as good fishing ground. A location that may be fairly fished by the service of fifteen hundred traps, is sure to be overfished when the addition of one thousand traps are used upon the same ground. The increase in the number of traps is often a source of bitter complaint among the fishermen. A person who has fished in a certain location for a long term of years frequently claims the ground as his own, and, when traps are set in the immediate vicinity of his, by another party, he objects; but the traps are set just the same, and so near each other that they frequently get mixed, notwithstanding the marks upon the buoys attached to the traps. Several complaints have reached me of parties tending, pulling and even stealing each other's traps. I have taken no action in regard to such complaints, but have left the fishermen to settle this unnecessary trouble among themselves.

An investigation of the lobster industry leads to many inquiries. If the free importation of cattle for breeding purposes, to the amount of $400,000 annually, is of sufficient importance to interest the whole agricultural community, why should not the importation of 3,600,000 cans of preserved and 4,000 tons of fresh lobsters, at an annual expense to the consumers of $550,000, receive that consideration that shall awaken an interest as regards the home source that we may be forced to look to, in order to fill the deficiency that is being felt by the rapidly decreasing foreign supply? That the foreign fishing grounds cannot stand the present strain put upon them, is evident from the fact that last season witnessed the closing of nearly thirty per cent. of the canning factories, for want of a supply of that class of lobsters that are used for canning purposes. The returns show that, notwithstanding the efforts of 8,450 men, with a service of 378,500 traps, there was a deficiency in the canning department of 2,500,000 cans, as compared with the previous year, making a shortage in the division of the cash receipts to those engaged in the business of $225,000; or, in other words, a falling off in the catch to the enormous number of six millions of lobsters. In order that I may be more fully understood in regard to the size of the lobsters caught and used in canning, I may say that in 1880 it required the meat of three lobsters, on

an average, to fill a one-pound can; in 1888 the average had been carried up, by overfishing, so that it required the meat of six to fill a one-pound can. With this fact in view, we may all cease to wonder at the closing of the canning establishments mentioned, and fairly ask ourselves if this condition of a once prosperous industry does not present a warning that the lobster fishermen of Massachusetts may do well to heed.

Previous to this, the question with our Legislature, in the enacting of laws in reference to the lobster fisheries, has been, "How shall we regulate a legitimate occupation?" The rapid falling off in the catch of sizable lobsters certainly indicates that the reckless destroying of the young, unless stopped, is soon to change the question to "How shall we manage a ruined industry?" A careful consideration of the subject cannot fail to lead to the conclusion that the decimated condition of the lobster industry is such that our legislation upon the subject at present should be for its preservation and extension, regardless of the selfish interest of a few fishermen.

Respectfully yours,

B. P. Chadwick, *Deputy Commissioner.*

Report of Francis Pease. — Enforcement of Laws.

Brockton, Nov. 26, 1889.

To the Commissioners on Inland Fisheries.

Gentlemen: — I respectfully submit the following report, giving a full account of the results of my efforts in enforcing the lobster law, for the season of 1889: —

No. of seizures made,	50
No. of persons brought before the courts,	50
No. of persons convicted,	43
No. of persons discharged,	7

The following is the list of names, with place of residence, of the parties complained of, with the amount of fine in each case: —

March	12.	McKay & Stimson of Brockton, fined $100 and costs.
April	6.	Patrick Curran of Brockton, fined $10.
	12.	Charles B. Higgins of Whitman, fined $15 and costs.
	12.	William N. Chapman of Whitman, fined $5 and costs.
	15.	Enoch W. North of Blackstone, discharged.

April 29. William Manley of Boston, fined $5 and costs.
May 7. Theophilus Hopkins of Boston, fined $5 and costs.
7. Edward T. Gay of Boston, fined $20.
15. Edward T. Gay of Boston, fined $10.
15. Edward W. Ryan of Boston, fined $30 and costs.
15. John P. Rich of Boston, fined $15 and costs.
16. Josiah C. Atwood of Boston, fined $10 and costs.
16. Edward R. Perry of Boston, fined $5.
16. Edward R. Perry of Boston, fined $20.
16. James C. Parmer of Boston, fined $10.
16. William G. Todd of Boston, fined $5.
16. Thomas O'Flaherty of Boston, fined $5.
17. Joseph W. Gill of Boston, fined $5.
17. William Youmans of Boston, discharged.
17. Rosco A. Carlow of Boston, fined $5.
17. Luman H. Hayden of Boston, fined $5 and costs.
17. Alfred Billetdeaux of Boston, fined $5.
21. John H. McLelland of Boston, fined $10.
21. George W. French of Boston, fined $5.
21. Russell Barr of Boston, fined $10.
22. William Youmans of Boston, discharged.
23. Joseph Woods of Boston, fined $10 and costs.
24. Fred Shaw of Boston, fined $5 and costs.
24. George E. Newton of Boston, fined $5 and costs.
June 3. Richard H. Cuteliffe of Boston, fined $15.
3. Obed C. Parker of Boston, fined $15.
3. John Dewise of Boston, discharged.
3. James G. Taylor of Boston, fined $10.
4. Abram Frisbie of Boston, fined $5.
4. Daniel Keating of Boston, fined $10.
4. Enos B. Keep of Boston, fined $10.
5. Joshua Y. Newcomb of Boston, fined $10.
5. Rosco A. Carlow of Boston, fined $5 and costs.
5. Joseph W. Gill of Boston, fined $5 and costs.
5. William Youmans of Boston, discharged.
6. William C. Colgate of Boston, fined $5 and costs.
7. Frank P. Haskard of Boston, fined $10.
7. Fred J. Hopkins of Boston, fined $5.
10. Alfred O. Lucia of Boston, fined $10.
10. James Ralph, Jr., of Boston, discharged.
10. David Keating of Boston, fined $5.
10. Robert H. Sanderson of Boston, discharged.
11. Luman H. Hayden of Boston, fined $5.
18. Thomas Atwood of Plymouth, fined $10 and costs.
Aug. 9. Henry C. Philips of Brant Rock, fined $50 and costs.

For violation of smelt law: —

March 16. Nehemiah C. Newcomb of Brockton, discharged.
16. Elijah Hamilton of Brockton, discharged.

At the markets in Boston, where lobsters were seized, all of the small ones were not taken, only a sufficient number to remind the dealers that the law would be enforced.

Respectfully yours,

Francis Pease, *Deputy Commissioner.*

Rockport, Dec. 10, 1889.

Commissioners on Inland Fisheries and Game.

Gentlemen: — I herewith submit my report as deputy commissioner for the year 1889: —

For violation of lobster laws: —

Alonzo Page of Salem, fined	$30 and costs.
Charles Thompson of Gloucester, fined	25 and costs.
Henry Madden of Gloucester, fined	25 and costs.
Peter Hanson of Gloucester, fined	30 and costs.
	$110

John Long and Dudley Joice of Boston, convicted in lower courts, appealed; case now pending in higher court.

Respectfully submitted,

Geo. W. Blatchford, *Deputy Commissioner.*

[B.]

Report of B. P. Chadwick.

Bradford, Oct. 20, 1889.

Shad.

To the Commissioners on Inland Fisheries.

Gentlemen: — I respectfully submit the following report, showing the full details of the work of hatching shad at North Andover for the season of 1889. The hatchery was opened June 17 and closed July 5.

Number of shad taken,	98
Number of shad given away,	50
Number of shad returned to river alive,	48
Number of salmon taken,	55
Number of salmon returned to river alive,	55
Estimated number of spawn taken,	700,000
Estimated number of shad hatched,	625,000

The shad appeared in the Merrimac this season the first of May, fully three weeks earlier than last year. I was not able to commence the work of hatching as soon as I intended, being detained in the work of constructing hatching-boxes, and assisting in hatching lobsters, until the 17th of June, and in consequence lost a week of the best part of the spawning season. There was a steady run of fish during the short time we were engaged in the work. The weather was favorable, with an even temperature of water, and a larger percentage of the spawn was hatched than in previous seasons. Of the number hatched, 320,000 were delivered to the fish commissioners of New Hampshire, and turned into the Merrimac, near Manchester; 30,000 to J. M. Fowle of Westport; 35,000 to Mr. Foss of Rowley; the balance, 240,000, were turned into the Merrimac at North Andover. The run of salmon shows a large increase from last season; 55 were taken in sixteen nights' fishing this season, while 51 were taken in thirty-one nights in the season of 1888.

The following table will show the number of large shad taken each day, the proportion of males to females, the temperature of

the water and air at 7 P.M., the time of drawing the seine, also the number of shad taken at each sweep: —

	Number of Fish taken.	Males.	Females.	Temperature of Water at 7 P.M.	Temperature of Air at 7 P.M.	Time of drawing Seine.	Number of Fish per Sweep.
June 17, 1889, . .	5	3	2	73	64	9,	5
18, . . .	15	10	5	71	60	8, 9,	7, 8
19, . . .	11	6	5	70	52	7, 8, 9,	6, 5, 0
20, . . .	10	2	8	72	64	8, 9,	5, 5
21, . . .	3	0	3	74	68	8, 9,	2, 1
22, . . .	6	2	4	74	60	9, 10,	0, 6
24, . . .	4	2	2	73	60	8, 9,	0, 4
25, . . .	4	2	2	74	58	8, 10,	4, 0
26, . . .	8	3	5	72	64	8, 9,	3, 5
27, . . .	4	1	3	74	60	8, 9,	1, 3
28, . . .	2	0	2	76	65	7, 8,	0, 2
29, . . .	3	0	3	76	66	8, 9,	0, 3
July 1, . . .	5	3	2	76	66	8, 9,	1, 4
2, . . .	4	0	4	77	70	8, 10,	3, 1
3, . . .	9	2	7	75	71	8, 9,	6, 3
5, . . .	5	2	3	74	72	8,	5

While engaged in the work, information reached me that the fishermen at the mouth of the river were taking large numbers of young shad, and selling them as bait. I had supposed the fishermen were keeping their part of the contract in good faith, and, when fishing for menhaden, if they caught shad, returned them to the river. I investigated the matter, and found seven men, with boats and seine, with about nine barrels of fish, consisting of alewives, young shad, and what fishermen call blue-backs, and not a single menhaden in the catch. I sent samples of them to you by express. This was on the 25th of June. The menhaden did not come into the Merrimac until the first of July. There was a large run of them in July and August, and more than a thousand barrels were taken and sold for bait. The practice of using young shad and alewives for bait, in the absence of menhaden, is poor economy, and should be discontinued. There can be no question but that the annual taking of so many young shad at the mouth of the river has been a serious hinderance in the efforts to restock the river. It is well known that these fishermen have been granted privileges not allowed elsewhere, and it is certain that the fisheries of this river are greatly damaged by the abuse of these privileges, the continuance of which should be abated.

Respectfully yours,

B. P. Chadwick, *Deputy Commissioner.*

[C.]

Distribution of Trout Fry.

We received, as our share of trout spawn from the works at Plymouth, N. H., 350,000 eggs, the fry from which were distributed in April and May as follows: —

Worcester County.

Francis B. Joy, Fitchburg.
E. S. Merrill, Winchendon.
Stillman Russell, East Douglas.
Chas. V. Dudley, Whitinsville.
C. H. Kimball, Worcester.
Geo. McAleer, Worcester.
W. R. Albertson, Worcester.
F. L. Wheaton, Worcester.
S. H. Coe, Worcester.
L. L. Clark, Royalston.
C. W. Bates, Phillipston.
J. W. Barnes, Petersham.
N. W. Frost (for club), Athol.

Hampden County.

Sydney Harrock (for club), Westfield.
North Branch Club, Springfield.
South Branch Club, Springfield.
R. J. Hamilton, Springfield.
M. V. B. Edgerly, Springfield.
M. W. Bull, Springfield.
E. A. Lavigne, Springfield.
C. L. Goodhue, Springfield.
H. H. Patten, Springfield.
Henry Hack, Springfield.
N. S. Chandler, Springfield.
Frank H. Fuller, Springfield.

Berkshire County.

W. H. Little, Sheffield.
T. L. Smith, Sheffield.
Lewis L. Jenkins, Great Barrington.
Dr. Sam'l Camp, Great Barrington.
J. H. Manning (club), Pittsfield.
Wm. Martin, Lanesborough.
L. B. Moore, Tyringham.
C. N. Foote, Lee.

Hampshire County.

E. E. Dewey, Haydenville.
H. G. Hill, Williamsburg.
Hon. B. P. Owen, Easthampton.
John Mayher, Easthampton.

Franklin County.

W. J. Bell, Shelburne Falls.
E. C. Hawkes, Charlemont.
C. A. Hawkes, Charlemont.
L. Thatcher, Charlemont.

Middlesex County.

Frank Cass, Holliston.
L. Rawson, Holliston.
C. E. Spring, Holliston.

Distribution of Trout Fry — Concluded.

Middlesex County — Con.

Myron Whitney, Ashby.
Nath'l P. Jones, Melrose.
Jas. O. Parker, Methuen.

Suffolk County.

N. F. Mayo, Revere.

Essex County.

Henri N. Woods, Gloucester.
Harry Raymond, Peabody.
Kendall Carter, Danvers.

Norfolk County.

R. B. Forbes, East Milton.
Edmund Sumner, City Mills.
Geo. A. Crooks, South Franklin.
Theodore A Dodge, Brookline.
A. E. Lincoln, West Stoughton.
Wm. Levering, Highlandville.

Bristol, Plymouth and Barnstable Counties.

Wm. Luther, Attleborough.
C. C. Peck, North Attleborough.
Horatio Adams, Kingston.
John A. Loring, West Barnstable.
Edwd. Bangs, Wareham.

Carp.

Carp were distributed this year as follows: —

Joseph E. Pond, North Attleborough.
W. F. Boyd, North Attleborough.
—– Richards, North Attleborough.
C. C Peck, North Attleborough.
O. B. Titus, North Adams.
H. N. Woods, Gloucester.
N. Clark, Paxton.
W. W. Leach, Palmer.
Wm. Prior, Boston.
Lyman Dyke, Stoneham.

[D.]

Northampton, Mass., Dec. 7, 1889.

To the Honorable Board of Massachusetts Commissioners on Inland Fisheries and Game.

Gentlemen : — At the suggestion of your commission, we submit the following report of the progress our association has made in establishing a plant for the propagation and breeding of brook trout.

Our association was organized Aug. 31, 1889, as the Hampshire Trout Breeding Association, its object being to encourage the propagation and breeding of brook trout, for the purpose of stocking the brooks in this county, of which we have many that are especially well adapted for this purpose, having clear running spring water, unpolluted by the wash and drainage of mills and factories.

The association numbers at this time about 150 members, residents of Northampton, Easthampton, Williamsburg, Hadley and Goshen ; and the following is the list of officers for the present year : —

E. C. Davis, *President.*
Dana Pearson, *Secretary and Treasurer.*
H. E. Maynard, A. F. Nutting, J. E. Riley, H. H. Chilson, Lewis Parsons, *Executive Committee.*

Before commencing active operations, we invited the chairman of your Board to visit and examine the brook and locality where we proposed to locate our hatching house and breeding ponds. The location met with his approval, and we have taken a five years' lease of the brook and adjoining land. This brook is known as the Phelps Brook, and is situated in the westerly part of Northampton, on the farm of Spencer Parsons, and is fed by large springs rising but a short distance above our hatching house. We have completed a house, 25 by 14 feet, for hatching purposes, with a capacity for eighty trays of the standard size used at the State hatching establishment at Winchester. The ponds for feeding

and growing the small fry will be completed in the spring, in time to receive the fish from the hatching house. It is proposed to grow them at least two inches in length, before distributing them in the streams.

Arrangements have been made with Mr. Marshall McDonald, United States fish commissioner, for 25,000 eggs, and they are ready for shipment upon notice from us. We also hope to receive a consignment from the State hatching establishment.

We are under special obligations to Mr. E. A. Brackett, of the State fish commission, for the interest he has shown in our enterprise, as well as the valuable suggestions and information received from him at different times in regard to details of construction and arrangement.

Respectfully submitted,

E. C. Davis, *President.*
Dana Pearson, *Secretary.*

Berkshire Trout-hatching Club.

Great Barrington, Mass., Dec. 11, 1889.

Hon. E. H. Lathrop, *Springfield, Mass.*

Dear Sir:—In response to your favor of December 9, I will state briefly the progress we have made, as well as the aims of our club.

Our hatchery is located on the side of a mountain, about one hundred and fifty feet from its base. It was built this year, under the direction of the man who is now in charge, and who thoroughly understands his business, he having been at the Caledonia State hatchery for a number of years.

The water supply comes from a spring about one hundred feet above the hatchery, and the quantity is sufficient to fill a six-inch pipe, the flow being constant the year round. It is remarkable for its purity. The normal temperature is forty-eight degrees, and it does not vary more than one degree in either winter or summer.

The stream, after leaving the hatchery, passes through a gorge, where the ponds have been formed by building log dams, from forty to sixty feet in length. The depth of the water is from eight to fourteen feet.

The ponds, four in number, are all well stocked with trout, varying in weight from one ounce to three and a half pounds, being sorted in the several ponds according to size. Besides these,

we have a spawning pond with a spawning race, also three large nursery ponds or races, built in such a way that the amount of water admitted to them is perfectly controlled.

This year we have collected over 100,000 spawn, which are now in the hatchery, and are developing rapidly. Up to this time we have not found over four per cent. of sterile spawn. We lost only two trout after stripping them. Another year we will have enough spawn to fill our hatchery, which has a capacity of 500,000 fry.

The purposes of the club are to restock the streams of Berkshire, making arrangements with the owners of the property through which the streams pass to protect them from unlawful fishing, and to lease some of the depleted streams, stock the same, and prohibit fishing for at least four years.

The location of our ground and the supply of water is such that, with a moderate amount of money expended, the capacity could be increased to any desirable extent.

Trusting this will give you the information you desire,

I remain, yours truly,

Sam'l Camp.

[E.]

LEGISLATION.

[Chap. 109.]

AN ACT FOR THE FURTHER PROTECTION, PRESERVATION AND PROPAGATION OF LOBSTERS.

Be it enacted, etc., as follows:

SECTION 1. Whoever during any season of the year catches or takes, and whoever has in his possession in this Commonwealth, with intent to sell, any female lobster bearing eggs, shall be punished for each offence by a fine of not less than ten nor more than one hundred dollars, or by imprisonment in the house of correction for not less than one nor more than three months: *provided, however*, that a person catching and taking any such lobster and immediately returning it alive to the waters from which it was taken, shall not be subject to such penalty; and *provided, also*, that this act shall not apply to lobsters spawning in lobster cars, if they are immediately returned alive to the waters as aforesaid.

SECT. 2. The provisions of sections seventy-three, seventy-four and seventy-five of chapter ninety-one of the Public Statutes shall hereafter apply to the owner of any lobster trap or other contrivance for catching lobsters.

SECT. 3. All cars or other contrivances used for keeping lobsters shall have the name and residence of the owner or owners legibly marked thereon, under the penalty prescribed in section seventy-five of chapter ninety-one of the Public Statutes.

SECT. 4. The commissioners on inland fisheries may occupy and use any small estuaries or creeks within the Commonwealth, not exceeding six in number, for the purpose of scientific investigation of the habits of lobsters and the propagation and distribution of the same: *provided*, that such occupation and use shall not impair the private rights of any person nor materially obstruct any navigable waters. Notice of such occupation shall be conspicuously posted and maintained by said commissioners at the nearest

points to said estuaries and creeks, and shall also be recorded in the registry of deeds in the county where the same are situated.

Sect. 5. Whoever, after the posting and recording of such notice, catches or takes any lobster from any estuary or creek so occupied as aforesaid shall be punished as provided in section one of this act.

Sect. 6. Said commissioners may expend a sum not exceeding two thousand dollars for the purposes specified in section four of this act.

Sect. 7. All acts and parts of acts inconsistent herewith are hereby repealed.

Sect. 8. This act shall take effect upon its passage. [*Approved March 13, 1889.*

[Chap. 292.]

AN ACT TO EXTEND THE TIME FOR THE TAKING OF FISH IN NORTH RIVER IN THE COUNTY OF PLYMOUTH.

Be it enacted, etc., as follows:

Section four of chapter forty-four of the acts of the year eighteen hundred and eighty-one is hereby amended by striking out the word "June", in the fourth line of said section, and inserting in place thereof the word: — July, — so as to read as follows: — *Section 4.* It shall be lawful for the inhabitants of the several towns on North river to take fish on Mondays, Wednesdays and Fridays of each week, from April first to July first inclusive, of each year, with ten seines only in the manner following, to wit: — The towns of Norwell, Scituate and Pembroke shall each have the right of disposing at public auction for their own benefit, of the privilege of catching fish with two seines only, and the town of Marshfield the right of disposing at public auction for their own benefit, of the privilege of catching fish with four seines only, in the river aforesaid. [*Approved May 3, 1889.*

[Chap. 78.]

AN ACT TO REGULATE THE TAKING OF FISH IN CERTAIN STREAMS WITHIN THE LIMITS OF THE TOWN OF RANDOLPH.

Be it enacted, etc., as follows:

Section 1. The town of Randolph may, at any legal meeting called for that purpose, make regulations not inconsistent with the provisions of the general laws of the Commonwealth concerning the taking of alewives, shad and smelts in the Blue Hill river, and the Noraway river and its branches, and all the streams flowing

into Great pond and into Monatiquot river, within the limits of said town, or concerning the disposal of the privilege of taking the same, for its own use and benefit.

Sect. 2. Said town shall, at its annual meeting in April in the year eighteen hundred and eighty-nine, and in each year thereafter, choose three discreet persons by ballot, whose duty it shall be to inspect said rivers and streams, to cause the regulations respecting said fishery to be carried into effect and to prosecute all violations thereof.

Sect. 3. Whoever takes from said rivers or streams any of said fish in violation of the provisions of said regulations shall forfeit for each fish so taken not more than ten dollars nor less than one dollar, one half of said penalty to be paid to the complainant and the other half to said town.

Sect. 4. The district court of East Norfolk is hereby given primary jurisdiction of offences under this act.

Sect. 5. The commissioners on inland fisheries shall have, with regard to said rivers and streams, the general powers and authority conferred upon them by chapter ninety-one of the Public Statutes of the Commonwealth.

Sect. 6. This act shall take effect upon its passage. [*Approved March 6, 1889.*

[Chap. 179.]

An Act to repeal an act to preserve the eel fisheries in herring river and its tributaries in the town of wellfleet.

Be it enacted, etc., as follows:

Section 1. Chapter forty-two of the acts of the year eighteen hundred and seventy-seven, being an act to preserve the eel fisheries in Herring river and its tributaries in the town of Wellfleet, is hereby repealed.

Sect. 2. This act shall take effect upon its passage. [*Approved March 29, 1889.*

[Chap. 202.]

An Act to authorize the selectmen of the town of bourne to sell the right to take alewives in said town at public auction.

Be it enacted, etc., as follows:

Section 1. The selectmen of the town of Bourne may annually sell at public auction the right to take alewives in the Herring river in said town, instead of appointing a person or persons to take the same as now provided by law.

Sect. 2. This act shall take effect upon its passage. [*Approved April 3, 1889.*

[Chap. 354.]

AN ACT TO AUTHORIZE THE LEASING OF TISBURY GREAT POND.

Be it enacted, etc., as follows:

SECTION 1. The commissioners on inland fisheries or any two of them may in the name of the Commonwealth lease, for a term not exceeding eleven years, the pond known as and called Tisbury Great pond, in the county of Dukes county, and any of the arms, coves and bays connected therewith, for the purpose of cultivating useful fishes, for such periods of time and on such terms and conditions as may seem to them most for the public good: *provided*, that nothing herein shall impair or abridge the right of any citizen of the Commonwealth to take fish in said pond or the waters connected therewith, by hook and line, at such times and under such restrictions and limitations as are permitted under any laws of the Commonwealth now or hereafter to be enacted relating to the taking of fish by hook and line.

SECT. 2. Before making such lease the commissioners shall appoint a time and place for a hearing upon the application therefor, and shall give notice thereof to all the towns within whose limits any part of said pond lies.

SECT. 3. Towns within whose limits any part of said pond lies may, for the purpose of cultivating useful fishes and under such conditions and restrictions as they may prescribe, take a lease of said pond and appropriate money therefor.

SECT. 4. The commissioners may fix the limits of the said pond, and the arms, coves and bays connected therewith; which limits, being recorded in the registry of deeds for said county, shall be taken to be the legal limits thereof for all the purposes of this act.

SECT. 5. The commissioners shall have the custody of all such leases, and may cause any agreements, rights, reservations, forfeitures and conditions therein contained to be enforced, and for that purpose may institute proceedings in the name of the Commonwealth, and may take possession of any premises for breach of condition of such lease, and after revesting the Commonwealth therewith may again lease the same.

SECT. 6. This act shall take effect upon its passage. [*Approved May 21, 1889.*

[Chap. 383.]

AN ACT TO AUTHORIZE THE FLOWAGE OF LAND FOR THE PURPOSES OF FISH CULTURE.

Be it enacted, etc., as follows:

Any owner or lessee of lands or flats situated in the county of Barnstable, appropriated or which he desires to appropriate to the

culture of useful fishes, may erect and maintain a dam across any stream for the purpose of creating or raising a pond for such fish culture, upon the terms and conditions and subject to the regulations contained in chapter one hundred and ninety of the Public Statutes, so far as the same are properly applicable in such cases: *provided, however*, that nothing herein contained shall authorize the erection or maintenance of a dam across any navigable stream within said county without a license obtained therefor from the board of harbor and land commissioners, in accordance with and subject to the provisions of chapter nineteen of the Public Statutes. [*Approved May 28, 1889.*

[Chap. 391.]

AN ACT AUTHORIZING CITIES AND TOWNS TO PROHIBIT THE TAKING OF EELS AND SHELL-FISH.

Be it enacted, etc., as follows:

SECTION 1. Section sixty-eight of chapter ninety-one of the Public Statutes is hereby amended by adding after the word "regulate" in line three of said section the words: — or prohibit, — so that the said section shall read as follows: — *Section 68.* The mayor and aldermen of cities and the selectmen of towns, when so instructed by their cities and towns, may control and regulate or prohibit the taking of eels, clams, quahaugs, and scallops within the same, including ponds which are now or may hereafter be leased by the commissioners; and may grant permits prescribing the times and methods of taking eels and the shell-fish above named within such cities and towns, and make such other regulations in regard to said fisheries as they may deem expedient. But any inhabitant of the Commonwealth, without such permit, may take, from the waters of his own or any other city or town, eels and the shell-fish above named for his own family use; and may take from the waters of his own city or town any of the shell-fish above named for bait, not exceeding three bushels, including shells, in any one day, but subject nevertheless to the general rules prescribed by the mayor and aldermen and selectmen respectfully as to the times and methods of taking such fish. Nothing herein contained shall be construed as allowing the taking of any kind of fish in violation of section thirty-four or thirty-five.

SECT. 2. This act shall take effect upon its passage. [*Approved June 3, 1889.*

[Chap. 335.]

AN ACT TO INCORPORATE THE PROPRIETORS OF THE NEW MATTAKESSETT CREEKS.

Be it enacted, etc., as follows:

SECTION 1. Charles F. Dunham, Samuel Pent, Cornelius Ripley, John L. Mayhew, Watson C. Clark, Oliver M. Vincent, Ralph Cleveland, Isaac D. Pease, Henry Smith, Benjamin G. Collins, Clarence H. Collins, Thomas Smith, Walter S. Osborn, Caleb H. Hobart, Tristram Cleveland, Charles Vincent, Arthur C. Vincent, George G. Cleveland, William G. Vincent, Benjamin W. Pease, David B. Pease, Charles M. Pease, Joseph Gray, George A. Smith, Elisha M. Smith, Elijah B. Vincent, Allen P. Stewart, Alfred Stewart, Seth Vincent, Oliver D. Waight, Grafton H. Smith, Charles G. W. Dunham, William F. Jernegan, Alexander Jernegan, Thomas E. Norton, Frank B. Hobart, Charles Mayhew, Richard E. Norton, Henry M. Cleveland, Lyman S. Smith, William B. Ripley, Samuel P. Huxford, Ira Darrow, Hugh S. Vincent, Allen R. Norton, Thomas F. Baylies, Leander Mayhew, Frank W. Pent, Charles H. Marchant, Elmer E. Norton, William E. Marchant, George F. Butler, J. Allen Hudson, Henry J. Cleveland, Edward C. Luce, Asa L. Cleveland, Chester E. Pease, Thomas A. Dexter, James Matchett, John R. Forman, Jeremiah S. Weeks, Charles Earle, Rodolphus H. Morgan, Elihu M. Bunker, Alonzo Ripley, William Kelley, Charles B. Osborn, Henry Dunham, Andrew B. Fuller, Jr., George C. Fisher, David S. Beetle, George M. Cleveland, Edgar F. Rogers, Daniel T. Webquish, Samuel P. Ripley, Melatiah Mayhew, Lemuel P. Bunker, Thomas J. Dunham, Sylvanus E. Norton, Charles H. Norton, Holmes C. Fisher, Enoch C. Cornell, Eliot H. Norton, Tristram E. Butler, Frank H. Marchant, Jonathan H. Munroe, Allen Norton, George Ripley, John Pease, Charles T. Foster, Charles W. Vincent, John P. Vincent, Hiram J. Cleveland, Owen W. Norton, Christopher R. Beetle, Charles W. Pease, Edwin R. Marchant, Cyrus Vincent, Caleb Vincent, Jophanus H. Smith, Edward T. Vincent, and Samuel Keniston, their associates and successors, are hereby made a corporation by the name of the Proprietors of the New Mattakessett Creeks, in the town of Edgartown, for the purpose of constructing, maintaining and operating a herring, alewife and other fishery, and for the better improvement of the meadows and other lands lying around the Great pond in said Edgartown, by means of a creek, water passage or canal, to be located and dug and constructed from said Great pond to Katama bay or some other part of the harbor of Edgartown, with the privilege of using for said

purposes the waters of the said Great pond, subject to all general corporation laws which now are or hereafter may be in force relating to such corporations, and shall have all the powers and privileges and be subject to all liabilities and restrictions set forth in chapter one hundred and five of the Public Statutes, except as herein provided.

Sect. 2. The first meeting of said corporation may be called by any number of members thereof, not less than ten, who shall cause a notice signed by them to be posted in some conspicuous public place or places in said Edgartown, fourteen days at least before the time appointed for holding said meeting, specifying therein the time, place and purposes thereof. A majority of the members of the corporation so assembled shall have full power to agree upon the manner of calling meetings thereafter and to make by-laws relating to any or all of the matters contemplated by section five of chapter one hundred and five of the Public Statutes, and all other rules and regulations necessary for the good government of said corporation, and not inconsistent with the laws of the Commonwealth.

Sect. 3. No person or persons shall, without permission first obtained of a majority of the members of said corporation present at a meeting called for that purpose, set, draw or stretch any seine or drag-net, or set up any weirs, or make use of any other fishing engine in any part of said creeks, or at or near the mouth of said creeks, or take any herrings, alewives or other fish that pass up or down said creek or creeks while in the same, on penalty of one dollar for each fish so taken and the forfeiture of said seines or other apparatus used for said purposes in said creek or creeks; excepting only the rights of those persons now holding a lease of said Great pond, under the conditions of said lease and during its present term; but nothing in this act shall be construed to prevent any person or persons from fishing in the waters of said Great pond, and from a reasonable way to pass over or cross the land of said Proprietors of the New Mattakessett Creeks to said Great pond for the purpose of fishing or gunning. The said penalty may be recovered in an action of contract before any court competent to try the same, one-half thereof to go to the person who shall bring suit and the other half to the said corporation; and the proceedings for forfeiture shall be the same as those provided in section two of chapter four hundred and forty-eight of the acts of the year eighteen hundred and eighty-seven.

Sect. 4. Commissioners who are now serving, or who may hereafter be appointed to regulate the draining of the water off

from the low grounds and meadows aforesaid, shall be disinterested persons, and upon and after the construction of said creek or canal shall so drain the waters of said pond by means of said creek or canal leading from said Great pond to Katama bay, so called, or some other part of Edgartown harbor, and in no other way. If by any order or procedure of said commissioners the said proprietors should dig their creek to a greater depth for the benefit of said low grounds or meadows, the commissioners shall consider the benefit or loss to all interested parties arising from such procedure or acts thereunder, and shall assess said benefit or loss between the said creek proprietors and the owners of said low lands and meadows. The amount of said damage to each or any interested party may be recovered in an action of contract.

Sect. 5. Said corporation, for the purpose of constructing or maintaining said canal or creek, may take the land of any person or corporation, and shall pay all damages occasioned by any such taking; and such damages shall, upon the application of either party, be estimated and recovered in the manner provided in relation to land taken for highways.

Sect. 6. Said corporation is authorized to levy assessments upon its members for the payment of land damages and other necessary expenses.

Sect. 7. Said corporation shall have authority to purchase and hold such real and personal property as may be necessary or convenient for the purposes named, and the members thereof shall be entitled to shares therein as provided by the articles of agreement signed by the subscribers therefor, which shall be made a part of the records of said corporation.

Sect. 8. All acts and parts of acts inconsistent with any of the provisions of this act are hereby repealed.

Sect. 9. This act shall take effect upon its passage. [*Approved May 14, 1889.*

[F.]

LIST OF FISH COMMISSIONERS.

The United States.

Col. Marshall McDonald, Commissioner, . Washington, D. C.
Capt. J. W. Collins, Assistant in Charge of Fisheries Division.
Richard Rathbun, Assistant in Charge of Scientific Inquiry.

Alabama.

Col. D. R. Hundley, ... Madison.
Hon. Chas. S. G. Doster, ... Prattville.

Arizona.

J. J. Gosper, ... Prescott.
Richard Rule, ... Tombstone.
J. H. Taggart, Business Manager, . . . Yuma.

Arkansas.

H. H. Rottaken, President, ... Little Rock.
W. B. Worthen, Secretary, ... Little Rock.
J. W. Calloway, ... Little Rock.
This State has never made an appropriation for fish culture.

Dominion of Canada.

Hon. John Tilton, Deputy Minister Fisheries, Ottawa.
Inspectors of Fisheries for the Dominion of Canada, 1888: W. H. Rogers, Amherst, N. S.; A. C. Bertram, North Sydney, C. B., N. S.; W. H. Venning, St. John, N. B.; Wm. Wakeham, Gaspé Basin, P. Q.; J. H. Duvar, Alberton, P. E. I.; Thomas Mowat, New Westminster, B. C.; Alex McQueen, Winnipeg, Man.
Officers in Charge of Fish-breeding Establishments: S. Wilmot, Superintendent of Fish Culture, Newcastle, Ont.; Chas. Wilmot, Officer in Charge, Newcastle hatchery, Ont.; Wm. Parker, Sandwich, Ont.; L. N. Cattellier, Tadoussac, Q.; Philip Vibert, Gaspé, Q.; A. H. Moore, Magog, Q.; Alex Mowat, Restigouche, Matapedia, P. Q.; A. B. Wilmot, Bedford, N. S.; C. A. Farquharson, Sydney, N. S.; Isaac Sheasgreen, Miramichi, N. B.; Charles McCluskey, St. John River, Grand Falls, N. B.; Henry Clark, Dunk River, P. E. I.; Thomas Mowat, B. C. hatchery, New Westminster, B. C.

CALIFORNIA.

Joseph Routier, ... Sacramento.
J. D. Harvey, ... Los Angeles.
Commissioner T. J. Sherwood resigned March 15, 1888.

COLORADO.

G. F. Whitehead, ... Denver.

CONNECTICUT.

Dr. Wm. M. Hudson, ... Hartford.
Rob't B. Chalker, ... Saybrook.
James A. Bill, ... Lyme.
The State has no official superintendent, most of the hatching being done by Henry J. Fenton, Poquonnock.

DELAWARE.

Charles Schubert, ... Odessa.

GEORGIA.

J. H. Henderson, ... Atlanta.
Dr. H. H. Cary, Superintendent, . . . La Grange.

ILLINOIS.

N. K. Fairbank, President, ... Chicago.
S. P. Bartlett, ... Quincy.
Geo. Brenning, ... Centralia.

INDIANA.

Enos B. Reed, ... Indianapolis.

IOWA.

E. D. Carlton, ... Spirit Lake.
Ole Bjorenson, Superintendent.

KANSAS.

S. Fee, ... Wamego.

KENTUCKY.

Wm. Griffith, President, ... Louisville.
P. H. Darby, ... Princeton.
John B. Walker, ... Madisonville.
Hon. C. J. Walton, ... Munfordsville.
Hon. John A. Steele, ... Midway.
W. C. Price, ... Danville.
Hon. J. M. Chambers, ... Independence.
A. H. Goble, ... Catlettsburg.
J. H. Mallory, ... Bowling Green.

MAINE.

E. M. Stilwell, ... Bangor
Henry O Stanley, ... Dixfield.
B. W. Counce, Sea and Shore Fisheries, . . Thomaston.

MARYLAND.

Dr. E. W. Humphries, ... Salisbury.
G. W. Delawder, ... Oakland.

MASSACHUSETTS.

E. A. Brackett, ... Winchester.
I. C. Young, ... Wellfleet.
E. H. Lathrop, ... Springfield.

MICHIGAN.

John H. Bissell, ... Detroit.
Herschel Whitaker, ... Detroit.
Joel C. Parker, M.D., ... Grand Rapids.
Walter D. Marks, Superintendent, . . . Paris.
George D. Mussey, Secretary, ... Detroit.
William A. Butler, Jr., Treasurer, . . . Detroit.

MINNESOTA.

William Bird, ... Fairmount.
Niles Carpenter, ... Rushford.
Robert Ormsby Sweeny, President, . . . St. Paul.
S. S. Watkins, Superintendent, . . . Willow Brook, St. Paul.

MISSOURI.

H. M. Garlichs, Chairman, ... St. Joseph.
J. L. Smith, ... Jefferson City.
H. C. West, ... St. Louis.
A. P. Campbell, Secretary, ... St. Joseph.
Philip Kopplin, Jr., Superintendent, . . St. Louis.
Elias Cottrill, Superintendent, . . . St. Joseph.

NEBRASKA.

William L May, ... Fremont.
R. R. Livingston, ... Plattsmouth.
B. E. B. Kennedy, ... Omaha.
M. E. O'Brien, Superintendent, . . . South Bend.

NEVADA.

W. M. Cary, ... Carson City.

NEW HAMPSHIRE.

George W. Riddle, ... Manchester.
Elliott B. Hodge, ... Plymouth.
John H. Kimball, ... Marlborough.
Elliott B. Hodge, Superintendent of Plymouth and Sunapee hatcheries, ... Plymouth.

NEW JERSEY.

William Wright, ... Newark.
Frank M. Ward, ... Newton.
J. R. Elkinton, ... Pennsgrove.

NEW YORK.

E. G. Blackford, President, ... New York.
Gen. R. U. Sherman, ... New Hartford.
William H. Bowman, ... Rochester.
A. S. Joline, ... Tottenville.
Henry Burden, ... Troy.
E. P. Doyle, Secretary, room 311, Potter Building, ... New York City.
Superintendents: Fred Mather, Cold Spring Harbor; Monroe A. Green, Caledonia; James H. Marks, Bloomingdale; E. L. Marks, Fulton Chain; and E F. Boehm, Mill Creek.
Shell-fish Commission: E. G. Blackford, Commissioner; William G. Ford, Engineer; J. W. Merserau, Oyster Protector, 80 Fulton Market, New York.

NORTH CAROLINA.

William J. Griffin, Chairman, ... Elizabeth City.
J. B. Watson, ... Englehard.
William T. Caho, ... Bayboro.

OHIO.

C. V. Osborn, President, ... Dayton.
A. C. Williams, Secretary, ... Chagrin Falls.
J. C Hofer, ... Bellaire.
John H. Law, ... Cincinnati.
Hon Emory D. Potter, ... Toledo.
Henry Douglass, Superintendent, . . . Sandusky.
L. K. Buntain, Chief Warden, ... Dayton.

OREGON.

F. C. Reed, President, ... Clackamas.
E. P. Thompson, ... Portland.
R. C. Campbell, ... Ranier.

PENNSYLVANIA.

Henry C. Ford, President, 524 Walnut Street, Philadelphia.
James V. Long, Corresponding Secretary, 75 Fifth Avenue, ... Pittsburg.
H. C. Demuth, Secretary of Board, . . . Lancaster.
S. B. Stilwell, ... Scranton.
A. S. Dickson, ... Meadville.
W. L. Powell, Treasurer, ... Harrisburg.
John P. Creveling, Superintendent, . . Allentown.
William Buller, Superintendent, . . . Corry.

RHODE ISLAND.

John H. Barden, President, ... Rockland.
Henry T. Root, Treasurer, ... Providence.
William P. Morton, Secretary, ... Johnston.

SOUTH CAROLINA.

Hon. A. P. Butler, ... Columbia.

TENNESSEE.

W. W. McDowell, ... Memphis.
H. H. Sneed, ... Chattanooga.
Edward D. Hicks, ... Nashville.

UTAH.

A. Milton Musser, ... Salt Lake City.

VERMONT.

Herbert Brainard, ... St. Albans.
F. H. Atherton, ... Waterbury.

VIRGINIA.

Dr. J. T. Wilkins, ... Bridgetown.

WEST VIRGINIA.

C. S. White, President, ... Romney.
F. J. Baxter, Treasurer, ... Sutton.
James H. Miller, Secretary, ... Hinton.

WISCONSIN.

The Governor, *ex officio*.
Philo Dunning, President, ... Madison.
C. L. Valentine, Secretary and Treasurer, . Janesville.
Mark Douglass, ... Melrose.
A. V. H. Carpenter, ... Milwaukee.
Calvert Spensley, ... Mineral Point.
E. S. Miner, ... Sturgeon Bay.
James Nevin, Superintendent, ... Madison.

WYOMING TERRITORY.

Louis Miller, ... Laramie.

[G.]

LIST OF PONDS LEASED

By the Commissioners on Inland Fisheries, under Authority given by Chap. 384, Sect. 9, of the Acts of 1869.

[During the past year leases of fifteen ponds have either expired by limitation or have been cancelled.]

1870.

Feb. 1. Waushakum Pond, in Framingham, to Sturtevant and others, 20 years.

April 1. Mendon Pond, in Mendon, to Leonard T. Wilson and another, 20 years.

Sept. 12. Baptist Lake, in Newton, to J. F. C. Hyde and others, 20 years.

1871.

April 17. Long Pond, in Falmouth, to Joshua S. Bowerman and three others, 20 years.

May 15. Pratt's Pond, in Upton, to D. W. Batcheller, 20 years.

Nov. 1. Punkapoag Pond, in Randolph and Canton, to Henry L. Pierce, 20 years.

1872.

Jan. 1. Sandy Pond, Forest Lake, or Flint's Pond, in Lincoln, to James L. Chapin and others, 20 years.

1874.

March 2. Upper Naumkeag Pond, in Ashburnham, to inhabitants of Ashburnham, 20 years.

May 20. Unchechewalom and Massapog ponds, to the inhabitants of Lunenburg, 20 years.

July 11. Hazard's Pond, in Russell, to N. D. Parks and others, 20 years.

1875.

Jan. 1. White and Goose ponds, in Chatham, to George W. Davis, 15 years.

March 1. Hood's Pond, in Ipswich and Topsfield, to inhabitants of Topsfield, 15 years.

1875.

April 1. Chauncy Pond, in Westborough, to inhabitants of Westborough, 15 years.

3. West's Pond, in Bolton, to J. D. Hurlburt and others, 15 years.

15. Gates Pond, in Berlin, to E. H. Hartshorn and others, 15 years.

24. Pleasant Pond, in Wenham, to inhabitants of Wenham, 15 years.

May 1. Morse's Pond, in Needham, to Edmund M. Wood, 15 years.

1. Chilmark Pond, in Chilmark, to J. Nickerson and others, agents, 20 years.

July 1. Wedge Pond, in Winchester, to inhabitants of Winchester 15 years.

1. Haggett's Pond, in Andover, to inhabitants of Andover, 20 years.

Aug. 1. Oyster Pond, in Edgartown, to J. H. Smith and others, 20 years.

9. Mystic (Upper) Pond, in Winchester, Medford and Arlington, to inhabitants of Winchester and Medford, 15 years.

Oct. 1. Little Chauncy and Solomon ponds, in Northborough, to inhabitants of Northborough, 15 years.

1876.

Feb. 1. Great Sandy Bottom Pond, in Pembroke, to inhabitants of Pembroke, 15 years.

March 1. Dennis Pond, in Yarmouth, to inhabitants of Yarmouth, 15 years.

1. Crystal Lake, in Wakefield, to Lyman H. Tasker and others, 15 years.

20. Lower Naumkeag Pond, in Ashburnham, to inhabitants of Ashburnham, 18 years.

28. Dennison Lake, in Winchendon, to inhabitants of Winchendon, 15 years.

28. Phillipston Pond, in Phillipston, to inhabitants of Phillipston, 20 years.

May 8. South-west Pond, in Athol, to Adin H. Smith and others, 15 years.

June 10. Dug Pond, in Natick, to W. P. Bigelow and others, 15 years.

Oct. 1. Farm and Learned's Pond, in Framingham, to inhabitants of Framingham, 15 years.

1. Whitney's Pond, in Wrentham, to inhabitants of Wrentham, 15 years.

1. Little Pond, in Falmouth, to George H. Davis, 15 years.

1877.

March 1. Nine-mile Pond, in Wilbraham, to inhabitants of Wilbraham, 15 years.

1877.

March 15. Pentucket and Rock ponds, in Georgetown, to inhabitants of Georgetown, 15 years.

Oct. 1. Fort, Great Spectacle and Little Spectacle ponds, in Lancaster, to inhabitants of Lancaster, 20 years.

1. Magog Pond, in Acton and Middleton, to inhabitants of Acton, 15 years.

1878.

Jan. 1. Sniptuit, Long, Snow and Mary's ponds, in Rochester, to inhabitants of Rochester, 15 years.

March 16. Asnaconcomic Pond, in Hubbardston, to Amory Jewett, Jr., 15 years.

May 1. Bear Hill Pond and Hall Pond, in Harvard, to inhabitants of Harvard, 15 years.

Oct. 1. Ell Pond, in Melrose, to J. A. Barrett and others, 15 years.

1879.

July 1. Fresh Pond, in Falmouth, to Thomas H. Lawrence, 20 years.

Oct. 1. Pomp's Pond, in Andover, to inhabitants of Andover, 15 years.

Nov. 1. Lake Quinapowitt, in Wakefield, to inhabitants of Wakefield, 14 years.

1880.

March 1. Lake Winthrop, in Holliston, to inhabitants of Holliston, 15 years.

15. Massapoag Pond, in Sharon, to inhabitants of Sharon, 10 years.

May 1. Tisbury Great Pond, in Tisbury, to Allen Look and others, 10 years.

June 1. Indian Pond, in Kingston, to inhabitants of Kingston, 10 years.

1. Jordan Pond, in Shrewsbury, to inhabitants of Shrewsbury, 15 years.

July 1. Swan and Martin's ponds, in North Reading, to inhabitants of North Reading, 15 years.

Sept. 1. Herring Pond, in Eastham, to William H. Nickerson, 10 years.

Dec. 24. Chadwick's Pond, in Bradford and Boxford, to town of Bradford, 10 years.

1881.

Jan. 1. Great and Job's Neck ponds, in Edgartown, to Amoz Smith and others, 15 years.

April 1. Long Pond, in Blandford, to Samuel A. Bartholomew and another, 15 years.

May 2. Nonesuch Pond, in Weston and Natick, to W. A. Bullard and others, 15 years.

1882.

March 1. Blair's Pond, in Blandford, to Curtis M. Blair and another, 15 years.

April 1. Ward Pond, *alias* Wightman Pond, in Ashburnham, to Herbert F. Rockwood and another, 15 years.

May 1. Horn Pond, in Woburn, to inhabitants of Woburn, 15 years.

June 1. Wickaboag Pond, in West Brookfield, to inhabitants of West Brookfield, 15 years.

1883.

April 6. Fresh Pond, in Tisbury, to Allen Look and others, 15 years.

23. Keyes Pond, in Westford, to M. H. A. Evans, 15 years.

May 7. Singletary Pond, in Sutton and Millbury, to towns of Sutton and Millbury, 15 years.

May 7. The Great Pond, in Ashfield, to town of Ashfield, 15 years.

July 1. Lake Buell, in Monterey and New Marlborough, to town of New Marlborough, 10 years.

1884.

July 15. Asneybunskeit Pond, in Paxton, to inhabitants of Paxton, 10 years.

15. Center Pond, in Dennis, to inhabitants of Becket, 10 years.

15. Buckmaster Pond, in Dedham, to Francis Soule and others, 10 years.

15. Fresh Pond, in Dennis, to inhabitants of Dennis, 10 years.

17. Farm Pond, in Cottage City, to John C. Hamblin and others, 15 years.

18. Mashpee, Great and Wakeley ponds, in Mashpee, to inhabitants of Mashpee, 10 years.

Aug. 30. Sand Pond, in Ayer, to inhabitants of Ayer, 15 years.

Sept. 5. Great Pond, in North Andover, to inhabitants of North Andover, 15 years.

[H.]

RETURNS OF LOBSTER FISHERIES.

TOWN.	PROPRIETOR.	No. of Traps used.	No. of Lobsters taken.	Estimated Number less than 10 1-2 inches returned to the Water alive.	No. of Egg-bearing Lobsters returned to the Water alive.
Ipswich,	Rust & Grant,	20	2,482	2,192	63
"	Atkinson & Bro.,	30	5,529	3,754	69
"	A. W. Montgomery,	18	1,547	1,286	135
Annisquam,	Wm. Rowe,	18	631	1,006	–
Bay View,	Wm. Sargent,	60	1,898	3,200	29
"	Allan Robinson,	40	2,845	284	8
"	Alex. Sargent,	100	4,000	20,500	1,400
Lanesville,	J. J. Woodbury,	45	1,319	1,557	45
"	Wm. Saunders,	35	516	894	11
"	Elias Haraden,	31	2,524	2,193	52
"	John Roberts,	40	954	1,614	39
"	Ezra Haraden,	60	3,093	3,041	144
"	James Duley,	20	480	500	17
"	A. W. Riley,	75	3,474	3,644	13
"	Geo. Sargent,	49	556	1,129	–
Polly Cove,	G. H. Woodbury,	50	2,300	1,775	45
Rockport,	Edward Lewis & Son,	100	7,414	11,510	164
"	Amos Lufkin,	40	998	1,386	45
"	Jabez Rendall,	25	1,607	2,472	74
"	Wm. Day,	65	6,083	3,033	88
"	Ferdinand Norwood,	20	560	3,000	12
"	Wm. Stillman,	50	3,771	2,714	–
"	Wm. Winn,	78	4,570	4,873	85
"	Sam'l Perkins,	115	7,255	5,344	237
"	Mike Knowlton,	30	416	312	24
"	John Tarr,	100	9,299	10,121	387
"	Harvey Poole,	50	4,732	5,170	247
"	Charles Norwood,	15	203	–	–
"	Wm. Knights,	50	2,633	3,787	39
"	J. B. Parsons,	50	1,750	2,000	40
"	Charles Wendel,	38	2,044	3,000	150
"	Fred Johnson,	15	1,000	2,500	45
East Gloucester,	Joseph Douglass,	75	5,464	6,614	278
" "	Robert Douglass,	30	1,229	3,000	141
" "	Edwin Parsons,	30	55	75	5
Gloucester,	Nelson Rowe,	50	3,994	8,664	536
"	Joseph Parsons,	70	3,610	5,440	213
"	A. & H. Parsons,	100	6,950	10,900	555
"	Chas. Parsons,	50	2,540	6,310	340
"	Alden Parsons,	85	3,647	6,700	279
"	Frederick Parsons,	82	3,092	1,600	59
"	Elbridge D. Rust,	90	12,280	15,330	1,424

Returns of Lobster Fisheries — Continued.

TOWN.	PROPRIETOR.	No. of Traps used.	No. of Lobsters taken.	Estimated Number less than 10 1-2 inches returned to the Water alive.	No. of Egg-bearing Lobsters returned to the Water alive.
Magnolia,	Wm. Douglass,	30	1,094	3,231	116
"	J. B. Knowlton,	39	3,602	3,338	504
"	John Burnham,	35	1,565	2,064	121
Manchester,	L. O. Sargent,	33	1,718	2,013	106
"	Charles Sargent,	25	1,178	1,114	110
"	Chandler Lewis,	5	120	200	12
Beverly,	Geo Seeley,	30	2,004	4,290	12
"	J. H. Barter,	50	5,000	485	–
"	Chas. Foster,	47	7,937	4,727	57
"	C. H. Very,	90	6,982	14,153	202
Salem,	John Clark,*	120	7,303	5,526	197
"	C. H. Berry, Jr.,	60	5,611	15,700	63
"	E. C. Lundgren,*	43	4,297	7,209	252
"	W. P. Foye,	50	6,710	4,842	93
"	G. H. Sargent,	55	4,987	10,392	176
"	Thomas F. Hogan,	38	7,416	8,596	171
Marblehead,	J. H. Atkins,	90	11,619	13,478	501
"	B. F. Stevens,	41	4,655	5,483	52
"	John Smithers,	20	3,659	3,553	67
"	Wm. Dennis,	22	1,134	1,560	23
"	Sam'l Hooper,	47	2,441	3,341	92
Swampscott,	T. E. Stone,	50	4,673	4,540	57
"	Lorenzo Woodbury,	50	4,367	4,384	147
"	Wm. Segar,	28	1,670	2,500	48
"	Z. Phillips,*	25	590	1,771	19
"	G. A. R. Horten,	38	1,871	2,555	80
"	C. O. Stone,*	30	876	1,107	28
"	C. S. Stone,	35	1,658	1,675	24
"	R. A. Douglass,	39	653	565	16
"	N. Pierce,	30	543	628	17
"	Henry Harding,*	53	2,029	3,139	18
"	Simon Douglass,*	30	1,836	3,368	91
"	S. Hammond & Son,	50	5,112	11,754	120
"	H A. Collyer,*	25	1,110	1,107	66
"	W. B. Newcomb,	40	2,000	3,000	23
"	H. B. Watts,	40	852	787	8
Lynn,	E. Lafreniere,	115	3,675	4,750	4
Nahant,	C. E. Gove,	100	5,741	–	86
"	G. W. Taylor,	45	2,933	4,297	92
"	J. B. Johnson,	60	3,000	3,000	40
"	E. A. Keene,	74	4,009	5,573	35
"	C. W. Taylor,	35	3,854	5,155	41
Winthrop,	John Wadsworth,	71	5,131	9,428	103
"	G. W. Wyman,	40	2,687	5,360	60
"	J. B. Wyman,	50	5,189	12,338	562
"	W.E. & A.G.Wyman,	190	18,198	33,239	866
"	A. G. Wyman,				
"	M. Treworgy,	150	11,018	20,898	504
"	V. Treworgy,				

* No. of egg-bearing lobsters sold to the commissioners. — John Clark, 92; E. C. Lundgren, 45; Z. Phillips, 8; C. S. Stone, 8; Henry Harding, 14; Simon Douglass, 4; H. A. Collyer, 1.

Returns of Lobster Fisheries — Continued.

TOWN.	PROPRIETOR.	No. of Traps used.	No. of Lobsters taken.	Estimated Number less than 10 1-2 inches returned to the Water alive.	No. of Egg-bearing Lobsters returned to the Water alive.
Winthrop,	Alva Belcher,	90	13,950	15,368	777
"	John Flannigan,	45	5,237	7,310	175
"	S. B. Belcher,	25	2,058	2,995	123
"	John Belcher,	36	1,189	1,737	9
"	John Stevenson,	60	6,054	1,279	37
"	Thomas Mason,	65	5,058	12,313	208
"	Gershom Sampson,	45	289	1,412	50
"	F. H. Baker,	112	7,663	8,018	403
Boston,	Joseph Safine,	120	7,449	12,425	1,024
"	Antoine Francis,	152	20,870	27,511	342
"	Fernando Augustus,	50	4,659	9,305	70
"	Antonio Silvia,	142	23,065	28,790	292
"	I. P. Serrilha,	150	11,649	28,824	199
"	Joseph Rogers,	100	6,689	9,475	352
"	Antonio Perry,	112	7,191	13,618	149
"	Peter Silver,	200	4,681	6,676	85
"	Jose Mariano,	200	11,939	13,330	458
"	Manuel Jasens,	145	4,614	5,441	386
"	Salvador Oliveira,	54	1,967	2,256	25
"	Graciano Rio,	10	4,275	4,860	27
"	Joquin Ferreia,	100	6,490	15,705	169
"	Antonio L. Perry,	180	5,466	3,897	376
"	Manuel Peveivos,	110	7,970	14,569	453
Hull,	Wm. Dean,	80	4,378	2,914	45
"	F. S. James,	160	4,871	5,283	252
"	J. & O. F. James,	145	6,979	3,871	201
"	John Reed,	179	20,556	10,851	210
"	A. B Mitchell,	80	3,322	7,032	73
"	G. F. Pope,	80	17,095	12,415	198
"	Wm. Barber,	64	4,974	13,368	150
"	A B. Cleverly,	73	1,927	2,305	46
"	Daniel Souther,	80	6,526	3,777	137
"	Daniel McDonough,	100	18,616	12,449	212
"	J. H. Smith,	80	5,647	5,292	17
"	Frederick Smith,	80	12,156	13,633	176
"	A. Mitchell,	140	2,620	3,125	31
"	Webster Mitchell,	80	1,530	3,035	24
"	W. B. Mitchell,	80	2,229	2,938	102
"	G. C. Augustus,	60	1,669	4,657	160
"	G. T. Augustus,	80	5,670	6,552	223
"	Eben Pope,	80	7,910	5,136	114
"	S. H. Litchfield,	71	3,066	6,400	70
"	Andrew Litchfield,	90	8,041	13,114	569
"	B. F. Litchfield,	80	7,519	10,770	434
"	Andrew Galiano,	70	3,494	13,675	231
"	Louis Galiano,	80	2,786	11,500	89
"	G. H. Souther,	80	3,000	8,500	858
"	Alfred Souther,	80	2,052	3,080	132
"	James Turner,	70	5,474	5,951	206
Nantasket,	Benj. Atwood,	76	4,251	13,801	82

Returns of Lobster Fisheries — Continued.

TOWN.	PROPRIETOR.	No. of Traps used.	No. of Lobsters taken.	Estimated Number less than 10 1-2 inches returned to the Water alive.	No. of Egg-bearing Lobsters returned to the Water alive.
Nantasket,	John Johnson,	76	5,820	15,686	160
"	Chas. Bates,	80	12,515	21,806	436
"	Carl Place,	40	2,766	3,650	161
Cohasset,	Robert Ainsley,	75	5,379	5,614	103
"	Manuel Vandura,	50	3,528	7,354	151
"	Joseph Vandura,	64	6,945	7,859	138
"	Warren White,	30	1,005	2,500	48
"	A. E. White,	130	6,331	8,700	167
"	Joseph Siva,	51	4,907	9,305	76
"	Levi Cadoza,	66	2,418	5,788	344
"	Manuel Almas,	59	3,007	6,947	37
"	Joseph Jason, Jr.,	66	7,596	8,750	140
"	John Silva,	40	3,542	7,118	150
"	Jeremiah McCarty,	32	649	550	43
Scituate,	Geo. Edson,	78	3,276	2,473	239
"	Robert O'Herne,	108	3,446	2,346	100
"	Thomas Dwyer,	108	5,181	5,078	75
"	Edward Graham,	58	871	757	19
"	Dennis McCarty,	50	1,000	1,200	20
"	Wm. Ward,	90	3,620	3,073	145
"	E. P. Pratt,	65	5,324	16,260	221
"	Jesse Spooner,	50	1,468	2,000	25
"	C. B Pratt,	50	4,479	7,170	216
"	Daniel Ward,	75	3,039	3,823	133
"	John Welsh,	50	1,714	2,500	87
"	L. S. Bonney,	50	1,400	1,500	76
"	John Conroy,	47	1,481	2,208	54
"	Patrick Mulkerne,	50	1,000	1,000	50
"	Daniel Duffey,	60	2,004	665	45
"	John Faloon,	40	771	280	25
"	Maurice O'Herne,	60	3,064	4,904	69
"	Wm. Duffey,	30	1,500	2,000	60
Brant Rock,	Chas. Tolman,	53	1,786	5,865	23
" "	W. H. Tolman,	61	2,035	5,405	76
" "	Lyman Sayers,	127	4,245	6,035	113
" "	Thomas Pezzy,	100	2,626	5,198	23
" "	Decenti Gay,	120	9,563	15,467	325
" "	Wilfred Keene,	87	3,605	8,443	77
" "	Henry Taylor,	40	2,192	7,250	139
" "	Isaac Walker,	100	7,800	17,670	240
" "	B. P. Williamson,	70	2,541	340	4
" "	H. C. Phillips,	122	7,000	7,000	150
Green Harbor,	Geo. Sampson,	60	3,085	11,635	169
" "	Chas. Peterson,	87	2,733	10,440	85
" "	B. F. Simmons,	49	1,488	3,016	26
" "	Geo Delano,	50	343	1,350	5
" "	J. P. Hammond,	60	1,104	407	46
" "	W. H. Chandler,	40	751	2,688	35
South Duxbury,	J K. Burgess,	50	7,639	21,428	151
" "	G. F. Freeman,	33	3,000	8,065	64

Returns of Lobster Fisheries — Continued.

TOWN.	PROPRIETOR.	No. of Traps used.	No. of Lobsters taken.	Estimated Number less than 10 1-2 inches returned to the Water alive.	No. of Egg-bearing Lobsters returned to the Water alive.
South Duxbury,	W. H. Ranson,	50	6,835	14,156	162
" "	O. C. Hunt,	50	7,724	17,854	1,117
" "	Clarence Smith,	49	8,623	13,659	390
" "	E. J. Smith,	20	3,116	3,671	57
" "	F. E. Wadsworth,	60	11,900	27,545	487
" "	W. E. Freeman,	40	4,123	3,906	9
Plymouth,	Benj. Manter,	60	1,818	4,500	68
"	Joseph Thurston,	56	5,042	16,681	100
"	Sam'l Burgess,	60	13,154	23,140	177
"	James Deacon,	38	2,577	4,466	82
"	Oscar Marsh,	39	2,293	4,076	72
"	B. F. Hodgiss,	50	4,071	500	16
"	Augustus Rogers,	40	1,595	2,365	63
"	Levi Thurston,	50	6,350	19,013	76
"	Geo. Atwell,	50	7,948	15,135	193
"	W. H. Finney,	49	3,014	10,720	81
"	H. L. Sampson,	41	10,687	9,099	676
"	Albert Raymond,	45	1,970	6,420	23
"	Geo. Manter,	80	4,399	3,952	122
"	G. F. Bennison,	59	2,086	4,102	123
"	J. B. Bartlett,	46	2,476	5,683	77
"	E. P. Bartlett,	50	2,748	9,417	106
"	Cornelius Briggs,	45	4,353	9,745	127
"	Laban Briggs,	55	5,288	10,831	291
"	Ezra Pierce,	80	1,152	1,342	78
"	S. J. Valler,	60	5,172	18,589	199
"	I. H. Valler,	75	10,963	28,855	323
"	A. M. Watson, Jr.,	47	6,199	13.278	229
"	A. M. Watson,	50	3,933	7,854	89
"	A. R. Gorham,	51	5,349	19,046	91
"	J. M. Snow,	50	8,271	17,225	124
"	D. W. Nightingale,	70	3,821	8,360	41
"	C. H. Pierce,	60	4,899	8,230	29
Manomet,	Henry Dodge,	57	4,397	9,614	91
"	S. B. Blackmer,	38	2,712	6,387	78
"	G. W. Holmes,	50	3,173	7,482	131
"	A. C. Sampson,	50	3,395	8,498	103
"	W. H Peterson,	40	1,328	2,215	70
"	Sam'l Bartlett,	43	2,318	6,789	97
"	Wm. Harlow,	70	4,642	9,385	177
"	L. B. Briggs,	55	6,925	11,426	251
"	Rufus Ellis,	60	4,957	10,630	240
"	A. L. Holmes,	58	4,323	10,415	157
"	W. Nightingale,	60	4,572	10,196	145
"	F. B. Holmes,	59	3,609	7,940	80
"	C. H. Dixon,	85	7,955	10,880	173
"	G. H. Dixon,	–	–	–	–
"	Lorenzo Nightingale	40	1,081	1,259	55
"	Walter Chase,	27	1,687	4,158	75
"	Geo. Griswold,	45	4,000	6,000	100

Returns of Lobster Fisheries — Continued.

TOWN.	PROPRIETOR.	No. of Traps used.	No. of Lobsters taken.	Estimated Number less than 10 1-2 inches returned to the Water alive.	No. of Egg-bearing Lobsters returned to the Water alive.
Manomet,	Harlow & Chandler,	130	7,212	15,680	192
"	H. G. Swift,	40	2,286	2,828	177
Bournedale,	Frank Leonard,	67	1,867	4,138	30
"	A. A. Nightingale,	41	1,307	4,492	42
Chiltonville,	H. A. Jordan,	57	5,553	–	94
"	R. F. Swift,	50	5,559	10,037	556
Orleans,	Willis Snow,	30	698	122	122
"	F. H. Hayden,	30	616	55	66
Dennisport,	Elisha Rogers,	30	122	321	–
Eastham,	Chas. Daniels,	45	588	52	22
Truro,	J. H. Rich,	25	113	15	6
North Truro,	Chas. Collins,	–	–	–	–
Provincetown,	W. G. Loring,	60	975	143	19
"	David Newcomb,	48	817	12	126
"	Wm. Cowing,	50	926	61	77
"	A. D. Snow,	25	1,028	125	25
"	J. W. Savage,	60	1,484	–	–
"	Geo. Lewis,	111	440	12	9
"	Alfred Mayo,	50	1,381	67	22
Chatham,	Otis Eldredge,	98	3,135	26	25
"	Elias Gould,	25	500	40	30
"	N. F. Bloomer,	75	3,688	580	293
"	Francisco Bloomer,	75	3,280	–	–
"	Seymour Patterson,	90	1,631	65	35
"	Harrison Gould,	50	922	18	20
"	Edmund Ryder,	154	4,930	804	474
"	Seth Mallows,	35	2,044	651	198
"	Geo. Bloomer,	53	5,816	7,448	817
"	Virenus Hamilton,	70	2,532	406	338
"	Reuben Bearse,	105	2,840	816	362
"	W. A. Bloomer,	91	6,924	7,175	1,536
"	J. Eldredge,	30	579	92	11
"	F. Hitchings,	33	264	–	–
"	Thomas Halway,	66	1,729	75	126
"	James Smith,	55	503	70	52
"	Oscar Gould,	39	403	40	39
"	D. P. Chark,	30	299	132	1
"	W. H. Patterson,	40	1,256	350	20
"	Wm. R. Bloomer,	60	2,185	5,500	2,087
"	Stephen Gould,	50	853	401	–
"	E. F. Mayo.*	82	2,234	289	115
"	C. F. Eldredge,	40	1,200	650	80
Chathamport,	F. B. Nickerson,	150	3,607	363	190
Woods' Holl,	C. J. Grinnell,	35	3,649	7,658	525
" "	O. C. Grinnell,	50	2,868	1,430	278
Mattapoisett,	Lillibum Hiller,	100	502	1,772	116
"	E. B. Hiller,	93	984	3,071	114
"	W. L. Richmond,	10	191	597	38

* No. of egg-bearing lobsters sold to the commissioners. – E. F. Mayo, 34.

Returns of Lobster Fisheries — Continued.

TOWN.	PROPRIETOR.	No. of Traps used.	No. of Lobsters taken.	Estimated Number less than 10 1-2 inches returned to the Water alive.	No. of Egg-bearing Lobsters returned to the Water alive.
Mattapoisett,	Albert Winters,	30	1,049	981	96
"	J. J. Nye,	20	206	655	30
"	W. E. Bowman,	100	1,322	1,496	379
"	Frank Bowman,	40	434	740	82
Fairhaven,	Albert Swain,	30	565	2,901	94
"	E. D. Sherman,	14	662	421	19
Dartmouth,	B. Queripel & Son,	20	491	2,164	48
Westport,	E. B. Gifford,	73	5,892	11,017	566
"	G. A. Gifford,	65	5,149	8,468	576
"	G. E. Gifford,	40	1,751	5,094	177
"	T. J. Brightman,	58	2,748	6,178	446
"	C. W. Woodworth,	30	765	258	98
"	G. L. Manchester,	–	–	–	–
"	H. F. Hitt,	20	485	852	33
"	J. W. Manchester,	3	139	252	–
Gosnold,	I. H. Tilton,	50	8,556	6,112	880
"	O. H. Stetson,	72	3,577	2,969	165
"	Russell Rotch,	40	11,098	12,195	2,361
"	Frank Peters,	40	7,170	4,272	1,198
"	Timothy Aiken,	30	3,498	3,600	200
"	E. Brightman,	30	3,555	4,125	250
"	J. W. Tilton,	25	3,294	3,314	183
Nantucket,	J. P. Gardner,	30	781	126	24
"	John Watkins,	–	–	–	–
"	J. V. Small,	37	736	77	8
"	J. F. Ramsdell,	15	135	46	2
"	Wm. Norcross,	12	383	63	36
"	C. B. & A. B. Brooks,	75	6,606	2,580	262
"	Arthur Barrett,	84	882	650	75
Kingston,	E. H. Ransom,	55	1,385	2,160	62
Vineyard Haven,	W. M. Randall,	14	701	415	7
" "	H. L. Peakes,	7	135	160	5
Gay Head,	C. H. Ryan,	25	1,762	5,214	134
"	J. H. Foster,	45	3,105	8,320	–
"	Albert Reed,	27	4,307	9,514	110
"	C. C. Look,	19	3,174	8,756	179
"	L. W. Mayhew,	40	8,352	10,027	355
"	J. A. Mayhew,	20	5,317	6,928	213
"	Anderson Poole,	15	1,497	2,356	22
"	L. E. Cottle,	35	5,588	10,848	240
"	Wynn Vincent,	44	9,771	21,737	635
"	Freeman Smith,	26	2,775	4,037	185
"	Wm. Mayhew,	21	3,613	6,608	155
"	Hillard Mayhew,	25	1,235	3,135	9
"	Rodney P. Reed,	22	5,048	8,121	194
Chilmark,	Clarence Cleveland,	39	5,815	12,470	612
"	Luther Atheorn,	40	4,288	13,731	277
"	Joseph Tilton,	24	3,806	8,135	230
"	Franklin Tilton,	11	747	2,015	29

Returns of Lobster Fisheries — Concluded.

TOWN.	PROPRIETOR.	No. of Traps used.	No. of Lobsters taken.	Estimated Number less than 10 1-2 inches returned to the Water alive.	No. of Egg-bearing Lobsters returned to the Water alive.
Chilmark, . .	W. B. Luce, . .	20	710	1,894	26
" . .	Onslow Stewart, .	36	5,080	12,457	234
" . .	Hiram Poole, . .	18	2,594	6,327	29
" . .	Edward Mayhew, .	15	748	709	11
No Man's Land, .	Welcome Tilden, .	60	6,960	8,715	176
" " .	Cottle & Cottle, .	200	25,747	12,375	1,346
" " .	Geo. H. Butler, Jr.,	50	12,252	6,195	281
Totals, . .	344 men.	20,016	1,359,645	1,946,339	61,832

[APPENDIX I.]

TABLES SHOWING RETURNS OF WEIRS, GILL-NETS AND SEINES.

[I.]

TABLE I. — POUNDS AND WEIRS. — *Showing*

TOWN.	PROPRIETOR.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.
Ipswich,	W. B. Atkinson,	–	14	5,600	–	2,800	–	–
Rockport,	–	–	–	–	–	–	–	–
Gloucester,	Joseph Douglass,	–	33	1,500	53,700	9,900	–	–
"	Joseph Parsons,	–	945	22,074	100,825	14,174	–	–
"	A. Varney,	–	–	13,250	30,575	536	–	–
Magnolia,	Alphonso Tarr,	–	107	6,600	933,900	350,214	–	–
"	Frank & C. W. Tarr,	–	–	–	96,690	8,610	1	–
Manchester,	J. G. & E. W. Heath,	–	27	7,200	734,350	338,600	6	–
"	Wm. Elwell,	–	–	1,704	151,810	22,980	–	–
"	Jones Bros. & West,	–	–	–	79,845	25,275	–	–
Marblehead,	G. W. Douglass,	–	–	70,000	177,650	19,050	–	–
Plymouth,	G. A. Finney,	–	–	–	–	32,325	–	–
"	J. C. & E. Barnes,	–	–	18,535	–	–	–	–
Barnstable,	R. S. Perry,	–	52	–	–	4,000	–	–
Dennis,	Z. H. Baker,	–	561	40,551	146,450	306	11	3
"	H. S. Rogers,	–	–	–	–	–	–	–
"	Sears Brothers,	–	–	–	–	–	–	–
"	Thacher Kelley,	–	27	27,256	14,826	1,300	25	–
"	Wm. Chalk,	–	16	61,483	17,457	74	27	–
"	Eilert Wefer,	–	–	2,500	–	–	–	–
"	Chas. Wall,	–	29	–	3	–	–	2
Harwich,	D. F. Weeks & Co.,	–	167	2,385	2,500	–	–	9,042
"	Cyrus Nickerson,	–	29	–	20,000	–	–	10,072
"	T. B. Baker & Co.,	–	66	–	–	8,800	–	27,600
Brewster,	James Eldredge,	–	100	–	–	–	2	–
"	Neil Nelson,	–	1,510	50	3,000	–	20	–
"	Howard Winslow,	–	–	26,589	–	–	–	–
Eastham,	W. H. Nickerson,	–	114	65	22,000	289	–	–
"	I. H. Horten,	–	1	–	–	–	–	–
"	Peter Higgins,	–	507	215	24,445	30,000	5	–
Wellfleet,	Winslow Paine,	–	–	238,560	–	–	–	–
"	W. F. Pierce,	–	–	–	116,240	–	–	–
Truro,	P. L. Paine,	–	1,533	97,726	193,694	8,888	–	22
"	G. & N. B. Rich,	5	472	15,640	91,170	35,598	1	25
"	R. A. Rich,	–	567	–	3,772,400	24,500	–	5
"	S. B. Atwood,	–	589	120	710,876	11,665	–	5
"	A. Huges & Co.,	–	1,958	–	2,272,505	51,445	279	41
"	S. F. Hardy,	–	37	4,650	769,850	–	–	–
Provincetown,	H. J. Lewis,	–	–	2	213,485	250	–	–
"	S. T. & L. Nickerson,	–	–	–	160,500	–	1	–
"	I. B. Lewis,	–	5	–	–	–	15	–
"	Solomon Bangs,	–	300	2,400	923,083	–	–	–
"	Wm. & Sylvester Ellis,	–	–	–	9,000	–	3	–
"	T. K. Paine,	–	–	–	611,160	–	–	–
"	Starr & Freeman,	–	–	–	30,150	705	–	157
Chatham,	Benj. Mallows,	–	1,247	6,500	156,600	–	–	–
"	A. Harding & Co.,	–	462	90,100	165,000	4,000	–	–
"	S. S. Ellis,	–	2,142	2,000	632,600	–	–	–
"	Joshua Eldredge,	–	7	941	–	–	–	470
"	G. W. Crowell & Co.,	–	309	7,572	47,406	–	96	6,324
"	Reed, Loveland & Co.,	–	2,558	17,400	1,969,800	6,800	2	–
"	Alpheus Mayo & Co.,	–	9	2,450	–	605	9	755
"	S. W. Gould & Co.,	1	115	2,894	114,600	195	1	48
"	S. F. Bearse & Co.,	–	2,343	10,536	211,030	–	–	–
Falmouth,	P. M. Stewart,	–	35	3,436	–	4,504	131	28,057
"	C. B. Coombs & Co.,	–	30	17,892	–	664	49	4,886
"	Peter Wainwright,	–	1	1,700	–	10	1,988	9,223
"	Moses Rogers & Co.,	–	48	18,237	5	–	–	123,134
"	John Rogers,	–	21	36,230	–	11,365	–	82,230
"	Isaiah Spindle & Co.,	–	57	5,225	8	5,505	6	54,364
Mattapoisett,	A. B. Bowman,	–	–	2,600	–	500	–	5
"	W. A. Gammon,	–	–	1,777	–	–	2	–
"	J. B. Dunn,	–	–	13,946	–	–	35	1

the Catch of Each during the Year 1889.

Squeteague.	Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
–	–	–	–	–	–	194	–	–	–	–	–	4,800
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	300	–	–	4,956	–	–	2	87	60	–
–	–	–	3,400	–	–	14,568	–	–	–	414	–	–
–	–	–	740	–	–	2,882	–	–	14	995	84	–
–	–	–	60,541	–	–	34,580	–	–	146	780	–	22,919
–	–	–	–	–	–	4,654	–	–	–	–	–	2,603
–	–	–	57,751	–	38	25,312	2	7	42	325	–	–
–	–	–	6,550	–	26	8,329	–	–	59	254	223	117
–	–	–	11,223	–	–	8,775	–	–	–	–	–	–
–	–	–	14,496	–	–	7,770	–	–	–	–	–	–
–	–	–	950	–	–	10,246	–	–	–	–	–	75
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	300	–	2	50,780	–	–	5,380	–	–	210
–	74	8	801	11	52	221	1	990	19	1,766	513	1,425
–	–	–	–	–	–	20,000	–	1,000	–	–	–	–
–	–	–	–	–	–	8,200	–	6	10	–	–	–
–	118	–	55	16	–	–	33	–	18	27	9	–
1	28	2	16	1,566	–	–	–	29	105	12,737	167	1,129
–	–	–	–	–	–	–	–	–	–	–	–	–
2	–	–	1,843	–	41	22,033	11	84	39	–	4	–
11	240	3,349	8,241	–	703	2,265	–	315	241	200	–	179
48	1,550	1,793	20,010	–	673	7,315	1	400	279	–	–	–
–	–	–	24,765	–	368	1,310	–	61	–	385	–	13
–	–	–	–	–	–	1,343	–	8	–	–	–	–
2	–	–	–	–	–	1,375	–	445	1,033	–	2,100	50
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	968	–	–	57	448	–	–
–	–	–	–	–	–	1,915	–	150	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	6	14,032	–	21	–	–	667	–
1	–	–	–	–	–	2,550	–	441	28	–	–	–
–	42	–	9,395	–	32	48,647	–	29	606	3,162	–	486
–	27	–	1,550	–	–	9,132	–	–	8	2,288	–	241
–	–	–	10,416	–	1	40,009	–	4	1,778	1,876	339	448
–	14	–	13,686	1	16	39,003	–	18	101	11,154	7	–
–	–	–	61,670	–	–	242,430	–	88	1,837	26,287	82	–
–	–	–	8,403	–	9	52,600	–	–	3	2,355	–	171
–	–	–	14,165	–	–	8,262	–	–	81	4,050	221	9,000
–	–	–	1,650	–	–	6,450	–	–	–	9,399	100	–
–	–	–	–	–	–	–	–	–	–	13,000	300	–
–	–	–	2,246	–	–	12,844	–	8	–	130	–	–
–	–	–	–	–	–	1,277	–	–	41	4,538	–	–
–	–	–	–	–	–	8,984	–	–	–	–	–	–
–	–	–	–	–	–	731	–	14	148	1,638	–	–
–	–	–	–	–	–	16,975	28	480	–	1,750	–	1,080
–	3	40	1,632	–	421	13,754	–	22	4	35	–	984
16	–	67	2,524	–	93	13,447	–	–	109	342	–	–
34	–	–	–	–	38	4	–	19	11	404	52	–
78	446	253	60,723	–	975	6,751	–	1,943	334	5,331	453	–
28	–	112	14,800	5	850	31,445	–	100	48	7,000	–	–
15	88	157	28,758	–	843	11,221	–	419	8	–	357	34
11	86	158	1,631	–	1,853	5,433	–	202	31	3,510	9	1
–	–	–	13,020	–	1,818	16,588	–	–	–	–	–	–
440	306	4,372	23,365	4	892	903	–	1,079	1,606	1,695	–	2
161	527	–	1,330	–	88	111	4	21	266	803	–	–
38	16	348	9,850	–	168	79	15	12	31	119	–	–
6,184	38	–	57,310	–	386	281	–	4	788	1,952	–	6,779
1,442	–	5,520	76,420	–	932	695	20	145	2,344	1,342	–	–
811	132	5,190	22,926	–	199	557	105	776	476	864	–	–
150	–	–	10,000	–	1	2	15	150	–	100	200	–
181	–	–	–	–	–	–	–	1,556	21	235	37	–
43	51	42	7,945	5	–	4	–	–	983	443	120	136

TABLE I. — Concluded.

TOWN.	PROPRIETOR.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.
Fairhaven,	D. C. Potter,	-	1	2,752	-	-	3	-
"	D. W. Deane,	-	6	42,879	32,823	4,819	145	6,555
"	R. W. Pease & Co.,	-	73	64,500	10,850	13,000	575	24,250
"	G. L. Hiller,	-	16	17,384	-	300	68	2,967
"	C. H. Pease,	-	28	70,429	-	-	30	24,381
"	S. P. Dunn & Son,	-	8	25,732	-	3,017	50	1,453
"	G. R. Wixon,	-	3	13,800	12	560	12	3,184
"	Ebenezer Mott,	-	2	38,500	4	255	6	96
Dartmouth,	W. S. Mathews,	-	4	5,902	28	1,587	13	187
"	Snell & Backus,	-	64	12,185	196	786	7	71
"	G. A. Snell,	-	318	27,996	2,232	2,864	32	22,134
"	George Priaulx,	-	46	17,764	1,605	9,260	-	27,512
"	Gifford & Tallman,	-	51	11,610	92	2,351	51	830
"	Nicholas Priaulx,	-	106	19,175	2,049	6,472	-	26,622
"	A. R. Reed,	-	56	22,856	1,832	5,525	159	922
"	J. F. Briggs,	-	50	20,779	1,051	2,095	738	125
"	Benj. Queripel,	-	18	10,774	5,040	-	-	10,520
"	Waite & Smith,	-	155	92,255	6,176	3,817	190	9,028
"	C. F. Manchester,	-	45	20,600	-	-	69	1,603
"	Gideon Howland,	-	2,202	-	4,079	5,208	-	4,775
"	Jonas Travers,	-	25	14,591	173	4,403	2	8,441
Westport,	J. M. Sowle,	-	-	4,352	-	-	-	-
Gosnold,	John Manley,	-	24	1,816	55	150	-	57,753
"	J. P. Hopkins,	-	-	-	-	-	-	87,740
"	A. B. Veeder & Co.,	-	-	17,030	-	-	-	154,450
"	Allen & Bosworth,	-	-	4,607	-	-	3	48,105
"	Church & Keeney,	-	83	8,170	765	-	1	77,214
"	C. C. Allen,	1	469	943	490	14,465	-	23,800
"	T. Aiken, Jr.,	-	-	-	-	-	-	91,950
"	Holmes & West,	-	4	4,820	161	583	-	41,220
"	F. A. Veeder & Co.,	-	-	1,490	-	-	-	104,800
"	J. J. Veeder,	-	42	2,645	-	280	-	18,395
Vineyard Haven,	C. B. Cleveland,	-	8	2,295	3,300	13,700	3	-
" "	O. D. Bradley,	-	-	50	12	-	-	-
" "	W. M. Vincent,	-	1	-	-	4,360	5	2,252
Tisbury,	W. L. Pease,	-	3	1,225	-	-	17	16,038
"	O. S. Daggett,	-	42	-	1,928	39,838	26	-
"	Jason Luce & Co.,	-	2,000	-	-	-	-	27,785
Gay Head,	Bartimus Luce,	-	8	3,935	37,290	9,101	-	30,887
Chilmark,	R. Flanders & Co.,	-	3	2,608	312	6,195	-	9,223
"	H. O. Poole & Co.,	-	576	1,930	3,039,935	11,246	4	24,936
	Totals (103),	7	25,591	1,417,950	17,000,308	1,203,669	4,924	1,331,673

TABLE I. — Concluded.

Squeteague.	Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
6	2	–	168	–	–	–	–	–	183	647	6	41
853	756	313	119,138	11,567	34	824	14	1,682	12,448	14,297	4,078	3,959
700	–	–	–	–	–	2,900	–	277	9,615	12,723	4,750	6,200
300	229	281	12,199	197	6	1,126	8	25	2,710	4,976	91	323
594	407	2,099	106,578	–	29	490	–	97	4,979	8,107	–	–
450	366	424	7,812	–	1	40	–	8	2,609	2,259	155	1,681
189	64	28	1,148	–	3	12	4	474	548	1,704	5	10
23	76	37	3,444	691	–	71	3	–	1,944	1,321	456	925
140	2	2	771	50	104	27	43	2	381	3,916	1,531	3,385
381	–	58	322	–	–	37	–	71	199	462	–	–
1,429	95	360	15,787	–	157	47	75	598	865	5,093	1	6,800
2,111	17	654	15,233	345	327	146	96	104	1,234	8,813	–	–
262	28	44	16,577	–	59	830	–	24	40	112	–	–
–	6	8	21,046	1,426	–	560	8	–	2,671	3,149	29	–
1,713	37	–	1,258	–	–	101	–	303	597	4,959	–	71
552	28	–	988	257	2	3	2	253	1,501	4,212	190	48
122	2	2	27,873	–	19	85	–	–	113	1,432	–	2,543
3,152	–	146	4,448	1,570	53	196	18	396	2,958	15,277	–	–
337	65	136	15,246	–	16	44	–	–	370	365	–	–
2,743	–	–	5,060	–	–	90	–	–	1,399	3,680	100	–
336	11	1	5,599	–	49	116	–	–	277	742	–	506
–	–	–	–	–	–	–	–	–	–	–	680	473
–	42	8,546	8,691	4,970	–	104	–	–	–	452	–	2,151
–	–	2,800	39,833	–	–	5,690	–	–	–	–	–	–
–	–	24,100	40,836	–	–	2,617	–	–	729	4,577	–	–
–	5	5,691	3,695	315	175	741	–	91	102	1,177	–	–
63	–	13,244	17,129	2,265	25	1,463	–	21	84	1,536	–	117
81	130	9,005	6,001	645	650	305	–	33	455	11,511	1	12,801
–	–	20,500	4,725	–	–	–	–	–	–	–	–	–
7	2	1,150	23,325	6,546	–	107	–	290	10	12,422	–	–
–	–	5,225	286,700	–	–	866	–	–	4	1	–	–
325	134	1,985	11,130	–	276	282	–	115	–	612	–	485
244	–	–	1,100	–	–	9,700	–	–	–	5,852	–	–
–	–	–	–	629	–	–	–	–	–	2,060	1,988	1,290
115	315	1,400	200	–	3,405	171	–	34	–	395	–	–
459	–	10,713	1,700	1,750	363	1,591	–	495	1	1,045	–	1
661	–	–	–	–	–	550	–	543	1,006	3,093	–	16,584
602	–	4,949	–	–	761	1,946	–	–	–	3,155	–	–
1,727	10	9,392	13,356	52,436	7,763	10,890	–	144	25	11,254	–	–
1,755	32	2,816	4,728	–	7,029	362	–	67	209	2,871	–	–
3,914	64	12,998	6,111	22,265	4,254	20,024	18	94	318	5,414	2	–
36,043	7,111	160,518	1,452,336	109,672	36,984	825,152	524	17,287	69,719	289,993	20,167	93,303

TABLE II. — GILL AND SWEEP NETS. — *Showing*

TOWN.	PROPRIETOR.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.
Newburyport,	P. C. Stevens,	–	–	–	–	161,250	–	–
"	Dennet Aubin,	–	–	–	1,038,255	2,517,100	–	–
"	Richard Pierce,	–	–	120,000	54,900	–	–	–
"	C. A. Caswell,	–	–	42,600	255,700	58,000	–	–
Rockport,	Chas. Norwood,	–	–	–	6,440	300	–	–
"	Chester Gott,	–	–	–	25,600	–	–	–
"	Geo. Wendall,	–	–	–	4,335	–	–	–
"	Gilbert Rich,	–	–	200	16,260	4,300	–	–
"	Everett Conley,	–	–	2,020	13,720	–	–	–
"	Calvin Parsons,	–	2	202	3,392	72	–	–
"	Wm. Lewis,	–	–	190	2,069	75	–	–
"	E. C. Parsons,	–	70	963	3,441	3,504	–	–
"	Andrew Morgan,	–	–	–	3,529	–	–	–
"	J. A. Poole,	–	–	–	1,500	–	–	–
"	Constance Surrat,	–	–	–	250	–	–	–
"	S. M. Davis,	–	25	–	–	–	–	–
"	B. F. Fretch,	–	–	–	1,700	–	–	–
"	J. J. Poole,	–	–	–	–	–	–	–
"	J. S. Newman,	–	29	1,065	1,287	227	–	–
"	Hudson Smith,	–	1	1,506	1,472	226	–	–
"	Alfred Saunders,	–	–	–	–	–	–	–
"	G. A. Saunders,	–	–	–	–	2,300	–	–
"	Chris. Anderson,	–	–	300	1,900	–	–	–
"	Joseph Brown,	–	–	–	–	–	–	–
"	James Frost,	–	43	216	1,343	–	–	–
"	Joseph Bushey,	–	–	–	–	–	–	–
"	Merdock Matherson,	–	–	–	–	–	–	–
"	Alonzo Withey,	–	1	1,560	1,845	755	–	–
"	J. F. Elwell,	–	–	–	1,486	–	–	–
"	J. J. Woodbury, Jr.,	–	–	–	12,680	18,244	–	–
"	Bartlett Morgan,	–	–	–	3,871	4,690	–	–
"	Alfred Morgan,	–	–	–	3,300	–	–	–
"	Ezra Haraden,	–	–	–	8,906	–	–	–
"	Wm. Saunders,	–	–	–	5,555	4,065	–	–
"	Joseph Saunders,	–	–	487	770	3,137	–	–
"	B. F. Bowden,	–	–	–	–	–	–	–
"	Geo. Haraden,	–	–	–	3,400	11,375	–	–
"	L. J. Saunders,	–	–	233	74	–	–	–
"	James McKay,	–	–	610	2,591	–	–	–
Gloucester,	D. C. McCaleb,	–	–	–	20,000	–	–	–
"	Douglass & Hodgkins,	–	–	–	–	64	–	–
"	Benj. Brazier,	–	–	–	–	–	–	–
"	John Davis,	–	–	–	8,070	834	–	–
"	S. H. Bates,	–	–	–	–	–	–	–
"	Sam'l Wiley,	–	–	–	73,700	–	–	–
"	Allen Robinson,	–	–	–	1,200	1,500	–	–
"	Edward McEmmons,	–	–	–	5,750	–	–	–
"	Alex. Sargent,	–	–	925	225	3,825	–	–
"	Otis Robinson,	–	–	–	1,450	3,200	–	–
"	Wm. Sargent,	–	–	–	–	–	–	–
Magnolia,	J. G. Burnham,	–	–	–	30,900	–	–	–
Swampscott,	G. H. R. Horton,	–	–	–	–	96,170	–	–
"	T. W. Brackett,	–	–	–	–	–	–	–
"	Nath. Blanchard,	–	–	2,300	10,800	6,720	–	–
"	Wm. Martin,	–	–	–	23,675	–	–	–
Cohasset,	John Silvia,	–	–	–	–	–	–	–
"	Joseph Vandura,	–	–	–	–	–	–	–
"	Levi Cadose,	–	–	–	–	–	–	–
"	Rob't Ainsley,	–	–	–	1,610	–	–	–
Scituate,	John Welch,	–	–	–	–	–	–	–
"	Dudley Connor,	–	–	–	–	–	–	–
"	Richard Hoar,	–	–	–	1,200	–	–	–
"	Wm. Ward,	–	–	–	20,950	–	–	–
"	T. L. Prouty,	–	–	2	33	700	–	–

the Catch of Each during the Year 1889.

Squeteague.	Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
											86,085	
											42,500	
						296						
						975						
						596						
						1,241						
						1,436						
			189			965						
						663						
			361			1,595						
						19						
						21						
						2,075						
			31			1,217						
						310						
						1,140						
						534						
			467			1,919						
						1,288						
						6,930						
						1,229						
			463			9,176						
						3,332						
						12						
						9,050						
			200	1,842		402						
			842			292						
			365			783						
						410						
						1,340						
						223						
						757						
						10,100						
						343						
				106		455			32			
			158			1,110						
						5,000						
			284	50		1,662			1	53	77	83
2,783												
						153						
			3,038			3,012						
						22,600						
						172						
						619						
						1,332						
						341						
						6,137						
						390						
						190				496		1,373
						626			48	352		3,043
						300						
				55		59			62			
												6,741
			207		32	52			246	246	569	
						179						
					1	409						
						820	1					
						50						
						12,470						800
			249			147	1		2			1

TABLE II. — Continued.

TOWN.	PROPRIETOR.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.
Scituate,	Wm. Turner,	–	–	–	450	50	–	–
"	J. P. Jordan,	–	–	–	814	475	–	97
"	Chris. O'Neil,	–	–	–	2,490	–	–	–
"	Caleb Bates,	–	–	–	1,100	500	–	–
"	Wm. Bates,	–	–	–	–	–	–	–
"	Thomas Dwyer,	–	–	–	5,225	–	–	–
"	G. F. Edson,	–	–	–	35	11,175	–	–
"	John Flaherty,	–	–	–	317	–	–	–
"	Dennis McCarthy,	–	–	–	700	–	–	–
Brant Rock,	Fred Keene,	–	–	–	–	451	–	–
"	Wm. Tolman,	–	–	–	–	–	–	–
Barnstable,	J. D. Kelley,	–	–	–	–	–	–	376
"	C. E. Bearse,	–	–	–	–	–	–	–
"	M. Sturges,	–	–	–	–	–	–	–
Dennis,	J. H. Long,	–	–	–	–	–	–	–
"	Sylvanus Wixon,	–	–	–	–	1,742	–	89
"	A. J. Edwards,	–	–	–	–	–	–	–
"	G. G. Snow,	–	–	–	–	4,000	–	–
South Yarmouth,	H. F. Crowell,	–	–	50,075	–	–	–	–
" "	D. S. Baker,	–	–	7,186	–	–	–	–
" "	Long Pond Fish Co.,	–	–	56,700	–	–	–	–
Harwich,	W. T. Tuttle,	–	–	–	–	–	–	–
Eastham,	J. W. Lincoln,	–	–	–	–	–	–	–
"	J. F. Walker,	–	–	–	–	–	–	–
Truro,	C. H. Collins,	–	–	–	221	360	–	–
"	B. F. Lombard,	–	–	–	–	–	–	–
"	C. M. Grozier,	–	–	–	–	–	–	–
"	H. King,	–	–	–	–	–	–	–
"	R. S. Lombard,	–	–	–	–	–	–	–
"	B. Hatch,	–	–	–	–	–	–	–
"	J. Smith,	–	–	–	–	–	–	–
"	Geo. T. Lewis,	–	–	–	–	–	–	–
Provincetown,	H. W. Harvender,	–	–	–	–	–	–	–
"	Reuben Mayo,	–	–	–	–	–	–	–
"	Geo. Lewis,	–	–	–	–	1,730	–	–
"	H. L. Mayo,	–	105	–	–	–	–	–
"	J. H. Lewis,	–	–	–	–	–	–	–
"	R. H. Atwood,	–	–	–	–	–	–	–
"	Isaac Tyler,	–	–	–	4,712	–	–	–
"	J. E. Weeks,	–	–	–	–	–	–	–
"	M. S. Brown,	–	–	–	–	–	–	–
"	F. J. Sears,	–	–	–	–	–	–	–
"	A. L. Daggett,	–	–	–	1,550	–	–	–
"	Charles Williams,	–	–	–	–	–	–	–
"	Alfred Mayo,	–	–	–	–	–	–	–
"	Wm. Dyer,	–	–	–	–	–	–	–
"	L. B. Kelley,	–	–	80	–	440	–	–
"	Joseph Ellis,	–	–	33	137	99	–	–
"	C. Williams, Jr,	–	–	–	–	–	–	–
"	I. H. Dyer,	–	–	–	–	–	–	–
"	J. C. Weeks, Jr.,	–	–	–	–	–	–	–
"	R. C. Tarrant,	–	–	–	–	–	–	–
"	Jonah Newcomb,	–	–	–	–	–	–	–
"	J. W. Savage,	–	–	20	–	–	–	–
"	J. J. Cook,	–	–	–	–	350	–	–
"	J. M. Rose,	–	–	–	–	–	–	–
"	G. W. Crosby,	–	–	–	5,490	1,745	–	–
"	Reuben Ryder,	–	–	–	–	–	–	–
"	Manuel Williams,	–	–	–	–	–	–	–
"	Manuel Sears,	–	344	–	10	–	7	–
"	G. H. Lewis,	–	–	–	1,200	–	–	–
"	J. C. P. Harvender,	–	323	975	1,880	–	–	–
"	Jesse Wiley,	–	–	–	–	–	–	–
"	Jesse Ghen,	–	–	–	–	–	–	–
"	J. E. Rand,	–	–	–	–	–	–	–
"	E. W. Smith,	–	2,600	–	–	–	–	–
"	Joseph Sears,	–	1	880	28	–	47	–
"	J. R. Williams,	–	–	–	–	–	–	–
Chatham,	V. C. Hamilton,	–	–	–	–	–	–	–
"	S. N. Mallows,	–	–	–	–	–	–	–
"	B. A. Kendrick,	–	–	–	–	–	–	–
"	J. A. Crowell,	–	–	–	–	–	–	–

TABLE II. — Continued.

Squeteague.	Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
-	-	-	-	-	-	60	-	-	-	-	-	-
-	-	-	141	-	-	489	-	-	-	-	-	500
-	-	-	-	-	3	295	-	-	-	-	-	-
-	-	-	-	-	-	248	-	-	-	-	-	-
-	-	-	-	-	-	1,154	-	-	-	-	-	-
-	-	-	-	-	-	436	-	-	-	-	-	-
-	-	-	-	-	-	519	-	-	-	-	-	-
-	-	-	-	-	-	106	-	-	-	-	-	-
-	-	-	-	-	-	200	-	-	-	-	-	-
-	-	-	109	-	-	181	-	-	-	-	-	-
-	-	-	-	-	-	296	-	-	-	-	-	-
2	-	706	8,200	-	193	-	2	952	-	-	-	-
-	-	-	-	-	27	6,555	-	-	-	-	-	-
-	-	-	-	-	-	-	-	1,551	-	-	-	-
-	-	-	-	-	-	-	-	1,401	-	-	-	-
-	-	-	33	-	-	-	-	1,165	-	-	-	-
-	-	-	20	-	-	8,900	-	20	-	-	-	-
-	-	-	-	-	-	25,538	-	1,283	-	1,430	-	876
-	-	-	-	-	-	-	-	-	-	-	9,950	-
-	-	-	-	-	-	-	-	245	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	97	4,600	3	702	-	-	-	-
-	-	-	-	-	-	2,434	-	55	-	-	-	-
-	-	-	-	-	-	307	-	113	-	-	-	-
-	-	-	-	-	-	1,115	-	-	-	9	-	-
-	-	-	-	-	-	1,767	-	16	32	-	-	302
-	-	-	-	-	-	1,028	-	-	-	-	-	-
-	-	-	-	-	-	31	-	-	-	-	237	-
-	-	-	1,504	-	-	1,740	-	-	1,846	-	2,222	1,017
-	-	-	-	-	-	655	-	-	-	-	-	-
-	-	-	-	-	-	85	-	-	-	-	-	-
-	-	-	-	-	-	365	-	-	-	-	-	-
-	-	-	-	-	-	266	-	-	-	-	-	200
-	-	-	-	-	-	414	-	-	-	-	-	-
-	-	-	165	-	-	885	-	-	-	3,782	-	-
-	-	-	575	155	-	3,984	-	80	-	-	-	-
-	-	-	-	-	-	1,985	-	-	-	-	-	-
-	-	-	-	-	-	176	-	-	-	-	-	-
-	-	-	-	-	-	1,377	-	-	-	-	-	396
-	-	-	-	-	-	1,580	-	-	-	-	-	215
-	-	-	-	-	-	1,136	-	-	-	-	-	-
-	-	-	-	-	-	3,020	-	-	-	-	-	-
-	-	-	-	-	-	3,844	-	-	-	-	-	-
-	-	-	-	-	-	350	-	-	-	-	-	-
-	-	-	3	-	-	396	-	-	-	-	-	-
-	-	-	-	-	-	28	-	-	-	-	-	-
-	-	-	53	-	-	284	-	-	-	-	-	-
-	-	-	30	-	1	348	-	-	-	-	-	-
-	-	-	-	-	-	358	-	-	-	-	-	-
-	-	-	-	-	-	364	-	-	-	-	-	-
-	-	-	-	-	-	168	-	-	-	-	-	-
-	-	-	-	-	-	1,532	-	-	-	-	-	-
-	-	-	2,221	-	-	5,489	-	-	-	-	-	-
-	-	-	-	-	-	36	-	-	-	-	-	-
-	-	-	-	-	-	229	-	-	-	-	-	-
-	-	-	-	-	-	355	-	-	-	-	-	-
-	-	-	-	1,440	-	-	-	-	-	1,840	-	-
-	-	-	-	-	-	311	-	-	-	2,905	-	-
-	-	-	-	-	-	465	-	-	-	-	-	-
-	20	-	7,776	931	-	14,594	12	-	-	16,113	-	6,430
-	-	-	-	-	-	830	-	-	-	-	-	-
-	-	-	-	-	-	1,249	-	-	-	2,495	-	-
-	-	-	-	-	-	778	-	-	-	-	-	-
-	-	-	-	-	-	200	-	-	-	-	-	-
-	-	-	-	-	-	960	-	-	-	-	-	-
-	-	-	-	-	-	20,269	-	-	-	-	-	-
-	-	-	-	-	-	538	-	-	-	-	-	-
-	-	-	-	-	-	5,547	-	-	-	-	-	-
111	-	-	-	-	-	-	-	451	-	-	-	-
-	-	-	-	-	15	6	-	266	-	-	-	-
-	-	-	-	-	-	-	-	275	-	-	-	-
1	-	-	-	-	33	282	3	206	-	-	-	-

TABLE II. — Continued.

TOWN.	PROPRIETOR.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.
Chatham,	C. C. Nickerson,	–	–	–	–	–	–	–
"	B. F. Patterson,	–	14	–	–	–	–	–
"	H. F. Gould,	–	–	–	–	–	–	–
"	P. M. Dill,	–	–	–	–	–	–	–
"	J. D. Bloomer,	–	–	–	–	–	–	–
"	W. F. Hitchings,	–	–	–	–	–	–	–
"	E. S. Gould,	–	–	–	–	–	–	–
"	J. S. Ryder,	–	5	198	9	–	–	5
"	A. Z. Atkins,	–	–	–	–	–	–	–
"	F. L. Eldredge,	–	–	–	–	–	–	–
"	David P. Clark,	–	–	–	–	569	–	–
"	W. A. Bloomer,	–	–	–	–	–	–	–
"	J. F. Eldredge,	–	–	–	–	–	–	–
"	Geo. Bloomer,	–	24	521	939	254	–	–
"	E. K Bearse,	–	–	–	–	–	191	–
"	E. F. Mayo,	–	–	–	–	10,712	–	–
"	Collins Howes,	–	–	–	–	–	–	–
"	Francisco Gould,	–	–	–	–	–	–	–
"	Otis Eldredge,	–	–	–	–	–	–	–
"	E. Z. Ryder,	–	–	–	–	–	–	–
Hyannis,	O. S. Crosby,	–	11	–	–	793	206	1,628
"	E. Taylor,	–	–	–	–	–	–	145
"	F. B. Sherman,	–	–	–	–	66	–	1,010
Centerville,	Kelly & Crawford,	–	7	–	–	447	148	122
"	W. W. Hallett,	–	–	–	–	–	–	92
Cotuit,	W. B. Nickerson,	–	–	–	–	–	–	–
Mattapoisett,	A. H. Shurtleff,	–	–	209,970	–	–	–	–
"	J. J. Nye,	–	–	–	–	–	–	–
"	Lilburne Hiller,	–	1	6	–	2,062	–	212
Fairhaven,	D. W. Deane,	–	4	–	–	–	–	226
"	D. C. Potter,	–	–	–	–	–	–	2
"	J. T. Besse,	–	–	–	–	–	–	–
"	A. C. Swain,	–	–	–	–	–	–	–
Westport,	C. F. Hitt,	–	–	5,770	–	–	–	–
"	Lysander White,	–	–	870	–	–	–	–
"	Crapo & Smith,	–	–	23,207	–	–	–	–
"	Thomas Wilcox,	–	–	137	–	–	–	–
"	Geo. Tripp,	–	–	600	–	–	–	–
"	T. S. Tripp,	–	–	3,323	–	2	–	–
"	Joseph LaCherite,	–	–	12,729	–	256	–	–
"	J. H. Waite,	–	–	4,125	–	–	–	–
"	J. T. Lawton,	–	54	3,860	–	2	3	–
"	J. J. Austin,	–	–	1,372	–	–	–	–
"	F. B. Grinnell,	–	–	1,200	–	–	–	–
"	W. H. Allen,	–	–	310	–	–	–	–
Chilmark,	Estate of H. M. Smith,	–	–	5,338	–	–	–	–
Nantucket,	Patsey Roberts,	–	14	–	–	207	–	–
"	W. N. Adams,	–	–	–	–	–	–	–
"	John Silvia,	–	–	–	–	–	–	–
"	Manuel Francis,	–	–	–	–	–	–	–
"	G. H. Hamblin,	–	–	–	–	–	–	–
"	W. J. Fisher,	–	2	–	–	–	–	57
"	H. R. Dunham,	–	–	–	–	–	–	–
"	R. K. Dunham,	–	–	–	–	–	38	–
"	Leander Small,	–	–	–	–	–	–	–
"	I. P. Dunham,	–	–	–	–	–	–	–
"	Geo. Orpin,	–	30	–	401	–	–	–
"	Marcus Dunham,	–	–	–	–	–	30	–
"	W. J. Burgess,	–	–	–	–	929	–	–
"	J. N. Small,	–	–	–	–	–	–	–
"	W. F. Ramsdell,	–	–	–	–	4,930	–	–
"	B. B. Pease,	–	9	–	43	–	–	–
"	Geo. E. Coffin,	–	–	–	–	–	24	–
"	James Kiernan,	–	–	–	32	103	–	–
"	A. C. Manter,	–	–	–	–	–	–	–
"	J. O. Freeman,	–	–	–	11	61	–	–
"	Geo. Huxford,	–	–	–	–	–	–	–
"	John Hamblin,	–	–	–	–	–	–	–
"	H. B. Cash,	–	15	370	12	59	–	2
"	F. F. Hamblin,	–	–	–	–	–	–	–
"	J. S. Watkins,	–	–	–	–	–	–	–
"	E. W. Folger,	–	3	–	17	–	–	–

TABLE II. — Continued.

Squeteague.	Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
2	–	2	–	–	3	–	3	384	–	–	–	–
–	–	–	–	–	94	5,007	–	576	–	–	–	–
–	–	–	–	–	–	12	–	214	–	–	–	–
3	–	–	–	–	–	4,972	–	113	–	–	–	–
–	–	–	–	–	–	20	–	560	–	–	–	–
–	–	–	243	–	–	1,193	–	–	–	20	–	331
–	–	–	–	–	125	–	68	191	–	–	–	–
–	–	4	338	–	–	3,414	–	–	–	–	–	112
–	–	–	–	–	–	–	–	320	–	–	–	–
–	–	–	–	–	124	219	1	846	–	–	–	–
26	–	–	20	–	–	31	–	306	–	–	–	–
–	–	–	–	–	30	184	–	915	–	–	–	–
–	–	–	–	–	–	–	–	411	–	–	750	–
12	–	–	–	–	11	–	–	765	–	–	–	–
–	–	–	–	–	–	–	–	794	–	–	–	–
–	–	–	–	–	–	–	–	1,583	–	–	–	–
–	–	–	–	–	14	159	3	47	–	–	–	–
–	–	–	–	–	–	–	–	447	–	–	–	–
–	–	–	–	–	106	53	–	229	–	–	–	–
–	–	–	–	–	125	4,863	–	1,357	–	–	–	–
336	479	–	2,141	–	41	1	–	5,403	103	110	7	5
–	–	9	–	–	–	–	–	377	–	–	–	–
–	–	270	23	–	12	–	–	244	2	–	–	–
167	–	–	–	–	–	3	6	730	6	–	–	55
–	–	445	–	–	–	–	–	3,364	–	–	–	–
–	–	–	–	–	–	–	–	471	–	–	–	72
–	–	–	–	–	–	–	–	–	–	–	–	–
179	–	–	–	–	–	–	–	193	7	–	–	–
–	39	2	860	–	44	25	33	2,300	80	6	3	–
108	–	–	–	–	–	–	1	532	3	–	–	–
1	–	–	–	–	–	–	–	86	2	–	–	–
84	–	–	–	–	–	–	6	1,037	–	–	–	–
46	–	–	–	–	–	–	–	602	–	–	–	–
–	–	–	–	545	–	–	–	–	2	42	69	577
–	–	–	–	–	–	–	–	–	–	–	–	44
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	1,200
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	1,181	–	–	–	–	–	168	673	2,181
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	5	200	–	–	–	–	–	–	–	1,000
–	–	–	–	75	–	–	–	–	–	–	111	258
–	–	–	–	346	–	–	–	–	100	157	–	36
–	–	–	–	–	–	–	–	–	–	–	40	3,780
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	207	–	–	822	–	10	–	–	–	–
–	–	–	–	–	–	–	–	2,451	–	–	–	–
–	–	–	–	–	–	–	–	1,041	–	–	–	–
–	–	–	–	–	–	–	–	786	–	–	–	60
–	–	–	–	–	10	–	–	665	–	–	–	–
–	–	–	–	–	–	9	–	1,941	–	–	–	112
–	–	–	–	–	–	2,957	–	4,956	–	–	–	–
–	–	–	–	–	–	–	–	931	–	–	75	–
17	–	–	–	–	–	–	–	2,440	–	–	–	–
–	–	–	–	–	–	–	–	656	–	–	–	97
–	–	–	–	–	–	116	–	1,240	–	866	–	235
–	–	–	–	–	–	53	–	962	–	–	–	–
–	–	–	–	–	–	128	–	50	–	–	–	–
–	–	–	–	–	–	–	–	–	–	4,508	–	–
3	–	–	–	–	21	–	–	1,216	–	–	–	–
–	–	–	157	–	–	292	–	–	1	–	–	–
–	–	–	–	–	–	77	–	889	–	1	12	–
–	–	–	193	–	–	1,035	1	8	–	–	–	–
–	–	–	–	–	20	257	12	3,935	–	–	–	–
5	–	–	3	–	36	11	1	911	–	1	–	–
–	–	–	–	–	100	–	–	766	–	–	–	–
–	–	–	–	–	–	–	–	239	–	–	–	–
4	–	1	487	–	4	780	–	479	1	2	1	2
–	–	–	–	–	5	–	–	142	–	–	–	–
–	–	–	–	–	19	–	–	212	–	–	196	5
–	–	–	69	–	–	144	–	–	–	–	–	–

TABLE II. — Concluded.

TOWN.	PROPRIETOR.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.
Nantucket,	Frank Meigs,	–	–	111	152	272	–	–
"	Horace Orpin,	–	–	–	–	–	–	–
Hingham,	Thomas Weston,	–	–	3,700	–	–	–	–
Middleborough,	R. & T. Hathaway,	–	–	131,926	–	–	–	–
Medford,	Geo. Hatch,	–	–	27,935	–	–	–	–
"	Henry Cotton,	–	–	180,564	–	–	–	–
"	E. B. Cross,	–	–	57,640	–	–	–	–
"	J. A. Cross,	–	–	73,646	–	–	–	–
"	Patrick O'Brien,	–	–	14,990	–	–	–	–
"	E. T. Russell, Jr.,	–	–	22,600	–	–	–	–
Andover,	Eben Sutton,	–	18	–	–	–	–	–
So. Hadley Falls,	C. C. Smith and others,	–	796	–	–	–	–	–
Taunton,	Dexter Marvel,	–	–	100,000	–	–	–	–
"	H. B. Macomber,	–	257	46,674	–	–	–	–
"	J. W. Hart & Co.,	–	325	34,300	–	–	–	–
Raynham,	Gustavus King,	–	964	83,282	–	–	–	–
"	G. B. & E. Williams,	–	1,291	82,650	–	–	–	–
Berkley,	I. M. Babbitt,	–	520	94,500	–	–	–	–
"	W. H. Walker,	–	400	110,000	–	–	–	–
"	E. Hathaway,	–	1,532	144,003	–	–	161	–
"	D. B. Shove,	–	425	96,000	–	–	–	–
Dighton,	C. N. Simmons,	–	850	140,000	–	–	–	–
"	Old Whale Fish Co.,	–	765	86,390	–	–	–	–
Somerset,	F. W. Souther,	–	–	1,826	–	–	666	–
"	John Simmons,	–	–	13,792	–	–	–	–
Kingston,	C. F. Stranger,	–	–	–	–	–	–	–
	Totals (234),	–	11,880	2,110,463	1,705,909	2,938,444	1,421	4,062
Tisbury Great Pond,		–	–	89,294	–	–	–	–
Farm Pond,		–	–	3,000	–	–	–	–
Tocha Pond,		–	–	85,768	–	–	–	–

TABLE II. — Concluded.

Squeteague.	Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
–	–	–	–	–	–	89	–	291	–	–	–	–
–	–	–	–	–	–	–	–	4,333	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	8,050	–
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	296
–	–	–	–	–	–	–	–	–	–	–	83	215
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	6,490	–
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–

TABLE III.— *Comparison of Returns for the Years 1882, 1883, 1884, 1885, 1886, 1887, 1888 and 1889.*

YEAR.	FISHERIES. Kind.	No.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
1882,	Pounds and weirs,	85	27,769	1,420,919	1,201,449	8,102	4,219	1,991,480	67,266	3,289,512	310	133,805	40,512	114,843	4,016	-
1883,	" "	87	5,994	1,250,263	339,116	4,048,022	2,876	1,848,583	92,671	4,756,490	246	60,182	35,481	184,387	5,361	-
1884,	" "	93	5,392	715,886	2,806,203	308,381	6,950	1,641,129	74,826	1,440,486	99	109,694	23,929	288,930	33,980	-
1885,	" "	80	18,088	1,066,148	6,564,619	6,255	1,365	1,240,630	17,746	2,643,190	24	32,575	47,231	317,082	7,741	128,698
1886,	" "	58	15,874	1,012,802	1,364,684	48,910	2,412	1,966,243	3,226	1,290,466	20	17,315	47,490	261,595	11,570	572,334
1887,	" "	62	14,044	1,453,820	1,713,846	127,951	1,233	2,153,504	15,742	1,069,609	109	44,204	89,075	304,492	7,615	812,810
1888,	" "	83	50,057	1,054,607	6,665,698	1,202,777	2,455	1,448,451	127,602	2,877,768	115	38,376	63,214	358,917	10,805	2,716,892
1889,	" "	103	25,591	1,417,950	17,900,308	1,203,669	4,924	1,331,673	36,043	825,152	524	17,287	69,719	289,993	20,163	1,859,924
1888,	Traps, fykes and irregular returns,	8	-	5,150	252,685	7,750	-	-	-	288,466	-	-	-	3,123	3,544	-
1889,	Traps, fykes and irregular returns,	15	2,994	89,516	1,212,942	184,239	64	86	54	64,938	13	2,690	339	2,246	2,060	76,073
1882,	Gill-nets and sea seines,	133	1,738	424,630	310,611	633	1,427	99,046	4,205	587,087	87	191,668	6,245	33,487	3,033	-
1883,	" "	112	26	41,996	79,689	937,627	838	6,254	1,102	392,535	4	131,815	966	12,681	1,755	-
1884,	" "	85	6,544	67,312	541,689	1,526	632	7,855	3,254	216,829	6	136,068	1,578	19,031	2,426	-
1885,	" "	78	444	117,674	82,151	9,546	601	26,854	1,656	183,156	1	101,371	233	30,948	967	5,454
1886,	" "	49	22	397,727	151,782	311	1,524	13,019	42	75,463	9	32,343	1,039	14,592	21,670	17,326
1887,	" "	35	801	347,109	779,211	57	601	676	2,586	177,401	3	22,018	457	14,206	30,416	4,708
1888,	" "	142	92,010	468,934	734,374	94,310	1,349	7,704	2,027	633,627	2,172	199,546	1,314	30,738	18,701	52,049
1889,	" "	208	4,533	401,445	357,054	202,094	1,421	4,062	4,545	271,017	157	55,718	2,576	35,745	199,360	80,008
1882,	Connecticut River seines,	3	2,770	-	-	-	-	-	-	-	-	-	-	-	-	-
1883,	" " "	4	3,591	-	-	-	-	-	-	-	-	-	-	-	-	-
1884,	" " "	2	1,593	-	-	-	-	-	-	-	-	-	-	-	-	-
1885,	" " "	1	1,718	-	-	-	-	-	-	-	-	-	-	-	-	-
1886,	" " "	1	577	-	-	-	-	-	-	-	-	-	-	-	-	-
1887,	" " "	1	850	-	-	-	-	-	-	-	-	-	-	-	-	-
1888,	" " "	1	824	-	-	-	-	-	-	-	-	-	-	-	-	-
1889,	" " "	1	796	-	-	-	-	-	-	-	-	-	-	-	-	-
1882,	Merrimac River seines,	4	387	2,800	-	-	-	-	-	-	-	-	-	-	-	-
1883,	" " "	2	146	-	-	-	-	-	-	-	-	-	-	-	-	-
1884,	" " "	2	111	-	-	-	-	-	-	-	-	-	-	-	-	-
1885,	" " "	2	130	-	-	-	-	-	-	-	-	-	-	-	-	-
1886,	" " "	1	73	-	-	-	-	-	-	-	-	-	-	-	-	-
1887,	" " "	1	28	-	-	-	-	-	-	-	-	-	-	-	-	-
1888,	" " "	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1889,	" " "	5	18	162,600	1,348,855	2,736,350	-	-	-	-	-	-	-	-	-	-

1882,	Taunton River seines,	11	11,173	1,039,272	–	–	44	–	–	–	–	–	–	–	–	–	–	
1883,	" " "	11	5,012	1,123,473	–	–	294	–	–	–	–	–	–	–	–	–	–	
1884,	" " "	10	4,037	959,736	–	–	429	–	–	–	–	–	–	–	–	–	–	
1885,	" " "	10	4,964	1,267,479	–	–	15	–	–	–	–	–	–	–	–	–	–	
1886,	" " "	8	2,620	962,690	–	–	–	–	–	–	–	–	–	–	–	–	–	700
1887,	" " "	8	4,550	863,278	–	–	–	–	–	–	–	–	–	–	–	–	–	
1888,	" " "	10	6,353	902,619	–	–	–	–	–	–	–	–	–	–	–	–	–	
1889,	" " "	13	7,329	1,033,417	–	–	–	–	–	–	–	–	–	–	–	–	–	
1882,	Other fresh-water seines,	25	897	1,558,659	–	–	234	–	–	–	–	–	–	–	–	–	–	
1883,	" " "	23	391	1,762,950	–	–	1,072	–	–	–	–	–	–	–	–	–	–	
1884,	" " "	13	22	610,847	–	–	897	–	–	–	–	–	–	–	–	–	–	
1885,	" " "	13	3	1,296,449	–	–	–	–	–	–	–	–	–	–	–	–	–	
1886,	" " "	7	300	797,365	–	–	–	–	–	–	–	–	–	–	–	25,275	–	
1887,	" " "	5	–	454,409	–	–	–	–	–	–	–	–	–	–	–	11,520	–	
1888,	" " "	19	6	1,026,052	–	–	4	–	–	–	–	–	–	1,053	6,068	–	–	
1889,	" " "	8	–	513,001	–	–	–	–	–	–	–	–	–	–	–	–	–	
1882,	Total returns,	261	44,734	4,446,280	1,512,060	8,735	5,929	2,090,526	71,471	3,876,599	397	325,473	46,757	148,330	7,049	–	–	
1883,	" "	239	15,160	4,178,682	418,805	4,985,649	5,080	1,854,837	93,773	5,149,025	250	191,997	36,807	197,068	7,116	–	–	
1884,	" "	205	17,699	2,353,781	3,347,892	309,907	7,582	1,648,984	78,080	1,657,315	105	245,762	30,507	307,971	36,406	–	–	
1885,	" "	184	25,347	3,747,750	6,546,770	15,801	1,881	1,267,484	19,402	2,826,346	25	133,946	47,464	348,030	8,708	134,152	–	
1886,	" "	124	19,466	3,183,741	1,520,466	49,221	3,936	1,979,262	3,268	1,395,850	29	55,031	48,678	276,187	58,872	590,659	–	
1887,	" "	112	19,292	3,108,642	2,345,632	97,510	1,833	2,144,973	18,357	1,057,565	112	66,422	89,065	320,220	50,071	818,639	–	
1888,	" "	264	149,200	3,767,929	7,669,493	1,556,036	3,275	1,672,610	129,850	3,801,393	2,489	240,874	70,523	432,710	40,634	2,875,420	–	
1889,	" "	352	40,461	3,617,929	19,919,159	4,326,352	6,414	1,335,821	40,642	1,161,107	694	75,695	72,634	327,984	221,583	2,015,993	–	
	Increase of 1885 over 1884,	–	7,648	1,393,969	3,198,878	–	–	–	–	1,169,031	–	–	16,957	40,059	–	–	–	
	Decrease of 1885 below 1884,	21	–	–	–	294,106	5,701	381,500	58,678	–	80	111,816	–	–	27,698	–	–	
	Increase of 1886 over 1885,	–	–	–	–	33,420	2,005	711,778	–	–	4	–	1,214	–	50,164	456,507	–	
	Decrease of 1886 below 1885,	60	5,881	564,009	5,026,304	–	–	–	16,134	1,430,496	–	78,915	–	71,843	–	–	–	
	Increase of 1887 over 1886,	–	–	–	825,166	48,289	–	165,711	15,089	–	83	11,391	40,387	44,033	–	227,980	–	
	Decrease of 1887 below 1886,	12	174	75,099	–	–	2,103	–	–	338,285	–	–	–	–	8,801	–	–	
	Increase of 1888 over 1887,	152	129,908	642,287	5,323,861	1,438,526	1,442	–	111,493	2,743,828	2,377	174,452	–	112,490	–	2,556,781	–	
	Decrease of 1888 below 1887,	–	–	–	–	–	–	472,363	–	–	–	–	18,542	–	9,437	–	–	
	Increase of 1889 over 1888,	88	–	–	12,249,666	2,790,316	3,139	–	–	–	–	–	2,111	–	180,949	–	–	
	Decrease of 1889 below 1880,	–	108,739	150,000	–	–	–	336,789	89,208	2,640,286	1,795	165,179	–	104,726	–	859,427	–	

PUBLIC DOCUMENT. No. 25.

REPORT OF THE COMMISSIONERS

ON

INLAND FISHERIES AND GAME

FOR THE

YEAR ENDING DECEMBER 31, 1890.

BOSTON:
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Commonwealth of Massachusetts.

To His Excellency the Governor and Honorable Council.

The Commissioners on Inland Fisheries and Game respectfully present their twenty-fifth annual report.

Fishways.

Fishways have been built during the past year over the following dams on the Monatiquot River: —

First Dam. — Owned by Sumner Hollingsworth and others.
Second Dam. — Owned by Sumner and Ellis Hollingsworth.
Third Dam. — Owned by Oliver Ames & Sons Corporation.
Fourth Dam. — Owned by James T. Stevens and Geo. D. Willis.
Fifth Dam. — Owned by Alva S. Morrison and others.
Sixth Dam. — Owned by Lydia D. and Lyman W. Morrison.
Seventh Dam. — Owned by the Jenkins Manufacturing Corporation.
Eighth Dam. — Owned by Betsy B. Hobart.

Two of these are expensive ways, spanning dams from eighteen to twenty feet in height.

Surveys have been made and plans and notices served on owners of dams on the stream leading from Horn Pond. Plans and notices were also served on owners of dams in Yarmouth and in Gloucester.

So far as is known, the fishways throughout the State are in good working order, and no complaints have been made that they are not satisfactorily serving the purpose for which they were constructed.

We have considered it desirable to publish a yearly record of observations made on only one of the fishways in the State; viz., that over the Lawrence dam on the Merrimac. As this is one of the most difficult passages for migratory fish, it shows the working of fishways in general, and also serves as an unanswerable fact that the impurities turned into the river have not materially affected the fish.

Excepting the differences in temperature, salmon and trout will thrive in waters where bass and alewives are found in a healthy condition.

FISH SEEN IN THE LAWRENCE FISHWAY IN THE YEAR 1890.

Apr. 22. Saw the first fish, a few suckers.
23. A few suckers.
24. A few suckers; one alewife.
25. A few suckers.
26. A few suckers.
27. A few suckers.
28. A few suckers.
29. A few suckers.
30. A few suckers.
May 1. Suckers, run small; one alewife.
2. Suckers, run small.
3. Suckers, run small.
4. Suckers, run small; a few alewives; one lamprey.
5. Suckers and alewives, run moderate; one lamprey.
6 to 8. River high; only a few suckers running.
9. Suckers and alewives, run small; a few lampreys.
10. Lampreys, run moderate; suckers and alewives, run small.
11. Alewives and lampreys, run moderate; suckers, run small.
12. Alewives, run moderate; suckers and lampreys, run small.
13. Alewives, run large; suckers and lampreys, run small.
14. Alewives, run large; suckers and lampreys, run small.
15. Alewives, run very large; suckers and lampreys, run small.
16. Alewives, run very large; suckers and lampreys, run small.
17. Alewives, run very large; suckers and lampreys, run small.
18. Alewives, run very large; suckers and lampreys, run small.
19. Alewives, run very large; suckers and lampreys, run small.
20. Alewives, run very large; lampreys, run moderate.
21. Alewives, run very large; lampreys, run moderate.
22. Alewives, run moderate; lampreys, run moderate.
23. Alewives, run moderate; lampreys, run moderate.
24. Alewives, run moderate; lampreys, run moderate.
25. Alewives, run moderate; lampreys, run moderate.
26. Alewives, run moderate; lampreys, run large.
27. Alewives, run moderate; lampreys, run large.
28. Alewives, run moderate; lampreys, run large.
29. Alewives, run small; lampreys, run large.
30. Alewives, run small; lampreys, run large.
31. Alewives, run small; lampreys, run large.
June 1. Alewives, run small; lampreys, run large.
2. Alewives, run small; lampreys, run moderate.
3. Alewives, run small; lampreys, run moderate.
4. Alewives and suckers, run small; lampreys, run moderate.
5. Lampreys, run small; a few alewives and suckers.

June 6. Lampreys, run small; a few alewives and suckers.
7. Alewives and lampreys, run small.
8. Alewives, run small; lampreys, run moderate.
9. Lampreys, run moderate; a few alewives.
10. Lampreys, run moderate; a few alewives and suckers
11. Lampreys, run small; a few suckers.
12. Lampreys, run small; a few alewives.
13. Lampreys, run small; a few alewives.
14. Lampreys, run small; a few suckers.
15. A few suckers and lampreys.
16. A few suckers and lampreys.
17. A few suckers and lampreys.
18. A few suckers and lampreys.
19. Three salmon, 12 to 14 pounds.
20. A few suckers and lampreys.
21. A few suckers and lampreys.
22. Two salmon, 14 to 16 pounds.
23. A few suckers.
24. One salmon, 12 pounds.
25. Two salmon, 8 to 12 pounds.
26. Four salmon, 8 to 14 pounds.
27. Five salmon, 6 to 20 pounds.
28. One salmon, 8 pounds.
29. Two salmon, 10 to 12 pounds.
30 to July 2. A few suckers and small silver eels.

July 3. One salmon, 8 pounds.
4 to 6. A few suckers and small silver eels.
7. Two salmon, 8 to 10 pounds.
8 to 11. A few suckers and small silver eels.
12. One salmon, 10 pounds.
13 to 21. River low; suckers and silver eels all there was running.
22. One salmon, 6 pounds.
23 to 26. River low; water shut out on the 24th, let in again in afternoon of the 26th; a few silver eels all there was running.
27. One salmon, 6 pounds; river rising.
28. Three salmon, 6 to 14 pounds.
29. Six salmon, 8 to 14 pounds.
30. One salmon, 8 pounds; 2 black bass.
31. One salmon, 8 pounds; 1 black bass.

Aug. 1 to 24. River low most of the time, and water shut out of the fishway part of the time; when water was in, a few silver eels and suckers running; river commenced to rise on the 24th.
25. One salmon, 10 pounds; half a dozen black bass; a few silver eels and suckers.
26. A dozen or twenty black bass; suckers and silver eels; run small.
27. One salmon, 8 pounds; a few black bass, silver eels and suckers.

Aug. 28. Suckers and silver eels, run small; a few black bass.
29 to Sept. 14. A small run of suckers and silver eels, with an occasional black bass.
Sept. 15 to 20. A few suckers and silver eels running.
21. Two salmon, 8 to 14 pounds.
22 to 25. A few suckers and silver eels running.
26. One salmon, 10 pounds.
27 and 28. A few suckers running.
29. One salmon, 10 pounds.
30 to Oct. 8. A few suckers running.
Oct. 9. One salmon, 8 pounds.
No fish but suckers running after October 9.

Shad.

There has been a decided decline in the catch of shad during the past year. It is a significant fact that a decrease of these fish in fresh water is always followed by a corresponding decrease in the catch by the weirs. The returns from the seines at Newburyport give no return of shad. It is known, however, that many were taken at the mouth of the Merrimac. The high water and scarcity of fish materially interfered with the hatching of shad at North Andover.

Carp.

The culture of carp has not as yet attracted much attention in this State, while in the South and West it has already become a source of considerable income. The few raised here and put upon the market have readily brought from sixteen to seventeen cents per pound.

Carp thrive best in warm and sluggish waters, and, if taken directly from such ponds, are scarcely edible; but if removed a few days before wanted, and placed in cool spring water, will lose the earthy taste, and become hard and flaky, the equal of any of our pond fish for the table.

No place is desirable for raising carp that is not under the control of the owner, so that he can at any time raise or lower the water, and, if need be, draw it off to remove any enemy to the young fish. Such ponds are easily constructed, and there are thousands of otherwise worthless places in this State which might be utilized for this purpose.

The following applications were filled, giving about twenty-five yearling carp to each : —

E. H. Guild,	Ware.
F. W. Harrington,	North Amherst.
Hon. A. C. Kirby,	Westport.
Norman Noble,	Pittsfield.
Mrs. M. A. Dresser,	Newton.
W. W. Leach,	Palmer.
A. C. Stevens,	Worthington.
Geo. P. Winn,	Arlington.
Arthur D. Hill,	Arlington.
F. H. & E. H. Dewey,	Westfield.
C. C. Peck,	North Attleborough.

Trout.

The reports received from various parts of the State show that the catch of trout during the past season has been unusually large. That this increase is mainly due to the distribution of young trout is evident.

In the commencement of the work of hatching these fish, before any considerable number had been sent out, we took the precaution to test the experiment by stocking several depleted streams, and also several streams where no trout had ever been known to exist. In every case the result was highly successful, showing that, if the same common-sense which governs the farmer in planting his crops is exercised in the planting of fish, favorable results are sure to follow. There will be no failures in the efforts to restock our streams where there is a sufficient supply of cold water, plenty of food, and the young trout are placed in the head waters of the stream.

Quite a number of persons have applied for trout, stating that they have prepared small ponds to keep and feed them in until they are one or two years old, before they turn them into the brooks. Under skilful management there is no doubt that trout and salmon may be raised in this way ; it is, however, a very expensive mode of culture, and in most cases will prove a total failure. Where fish are kept and artificially fed in small ponds, they lose their instincts of self-preservation, and, when they are turned into the stream, are destroyed by their enemies. This method of raising fish for

stocking streams is not new; it has been tried both in this country and in Europe. It is far better to turn the young fish into the head waters as soon as the yolk sac is absorbed, where they will be compelled to struggle for existence. The advantages gained by artificial culture are the large number of eggs impregnated and hatched, and the ease with which the young fish may be transported, even to great distance.

The demand for trout fry this year was greatly in excess of that of any previous year, so that many late applicants could not be supplied. The number of applicants was so great that the ratio of distribution was smaller than was expected, being about 3,500 to each one whose application was received before April 1. We have added to our stock about 100,000 fry each year for the last three years, but a large increase is a matter of time.

The last Legislature granted us one thousand dollars to establish another hatchery. Efforts have been made to secure a desirable location, and the work will probably be commenced next spring.

In the Appendix will be found the report of the Northampton hatchery. The gentlemen who are engaged in this laudable undertaking deserve great credit for the energy and perseverance with which they have carried on the work.

There will probably be about 600,000 young trout for distribution next April and May. These will be delivered free at the hatching house, Winchester, Mass., and cans will be furnished for transportation, to be returned to the hatchery at applicant's expense. All applications should be made before the first of April, endorsed by either senator or representative of the district. Trout fry cannot be entrusted to the express, and a responsible person should be sent to take charge of them. Such a person can take charge of twenty-five or thirty thousand fry, and, when several applicants reside on the same line of road, expense may be saved by arranging with one competent man to care for several cans to be distributed along the route.

DISTRIBUTION OF TROUT, SPRING OF 1890.

Middlesex County.

A. G. Whitman, Melrose.
Frank Cass, Holliston.
J. E. Boutwell, Woburn.
Hon. C. A. Jones, Woburn.
W. W. Lockwood, Lexington.
L. Rawson, Holliston.
H. S. Milton, Waltham.
J. W. Huntoon, Lowell.
Henry Ross, Newtonville.
Chas. E. Spring, Holliston.
James Beatty, Waltham.
W. G. Webber, Bedford.
J. E. Woodford, Newton.
E. G. Loomis, Bedford.
Chas W. Fowle, Lexington.
Geo. L. Lawson, Lowell.
G. H. Cushman, Waltham.
W. R. Rice, Waltham.
M. G. Cochrane, Melrose Highlands.
E H. Richards, Woburn.
J. O. Cummings, North Woburn.
Chas. W. Ames, Woburn.
F. O. Vaille, Lexington.
B P. Verne, Wakefield.
F. A. Davidson, Stowe.
Hon. M. P. Palmer, Groton.
F. W. Carter, East Woburn.

Worcester County.

Francis B. Joy, Fitchburg.
Thomas Sheldon, Fitchburg.
H. J. Wallace, Fitchburg.
Wm. Lawrence, Worcester.
Chas. B. Pratt, Worcester.
H. S. Seeley, North Worcester.
Geo. McAlleer, Worcester.
Chas. H. Steele, Worcester.
W. P. Albertson, Boylston.
C. H. Kimball, Boylston.
Dr. C. E. H. Higgins, Holden.
W. F. Gleason, Barre.
J. S. Harrington, Westminster.
W. E. Maynard, Fiskdale.
E. J. Ames, Barre.

Worcester County — Con.

J. F. Whitcomb, Athol Centre.
N. D. Peckham, New Braintree.
Stillman Russell, East Douglas.
Chas. V. Dudley, Northbridge.
John H Barns, Petersham.
L. C Prindle, Southbridge.
Geo Haywood, Gardner.
Geo. H. Foye, Athol
C. F. Amsden, Athol.
C. W. Bates, Phillipston.
H. P. Kendall, Sterling.

Hampden County.

R. W. Day, Wilbraham.
J. A. Murphy, Springfield.
R. J. Hamilton, West Springfield.
E. A. Lavigne, Springfield.
W. P. Birnie, Becket.
Paul M. Deman, Chicopee Falls.
F. H. Fuller, Monson.
H W. Bullock, Becket.
C. S. Goodhue, West Springfield.
E. A Perkins, Becket.
C. H. Sias, West Becket.
N. S Chandler, West Springfield.
M. V. B. Edgerly, Hampden.
H. S. Newell, Chicopee Falls.
G. W. Roraback, Chester.
J. P. Woodworth, Chicopee.
Joseph Orr, Chicopee.
H. H. Patten, Monson.

Berkshire County.

Chas. N. Foote, Lee.
W. H. Little, Sheffield.
S. W. Ingalls, Zylonite.
Hon. Ansel Chamberlain, Dalton.
S. P. Thayer, North Adams.
E. G. Harrington, Egremont.
Thos. P. Pingree, Pittsfield.
J. H. Wood, Pittsfield.
W. W. Tracy, Pittsfield.
J. M. Stevenson, Pittsfield.
E. T. Slocum, Pittsfield.

Distribution of Trout— Concluded.

Plymouth County.

H. G. Ford, Marshfield.
W. D. Baker, Marshfield.
Capt B. G. Cahoon, Marshfield.
L. O. Atwood, Rock.
Wm. J. Wright, Duxbury.
John B. Hollis, Jr., Duxbury.
Hon. H. J. Boardman, Duxbury.
Horatio Adams, Kingston.
Adolphus Savary, Wareham.
Wm. Minot, Jr., Wareham.
Chas. P. Horton, Wareham.
Elkanah Finney, Plymouth.

Essex County.

R. G. Brown, Topsfield.
J. W. Brimblecom, Lynn.
N. H. Poor, Danvers.
John C. Haskell, Lynn.
Henry Alley, Wenham.
Henry Rice, Danvers.
Robert R. Sears, Danvers.
Wm. H. Proctor, Swampscott.
Geo. H. Penney, Cliftondale.

Bristol County.

Wm. J. Luther, Attleborough.
J. L. Sweet, Attleborough Falls.
Hon. A. C. Kirby, Westport.
W. J. D. Bullock, Fall River.

Norfolk County.

M. J. Ellis, Norwood.
T. A. Dodge, Brookline.
C. A. Crooks, South Franklin.
A. L. Cook, Bellingham.
John B. Fisher, Dedham.
A. E. Lincoln, Stoughton.
Henry W. Britton, Stoughton.
Wm. A. McKeen, Bellingham.
Joseph Guild, Dedham.
J. F. Wight, Wellesley Hills.
John Fottler, Sharon.
A. C. Pratt, Weymouth.
Rev. W. H. Hinckley, Brookline.

Hampshire County.

John M. Eddy, Enfield.
A. V. Stevens, Cummington.
Wm. B. Grover, Belchertown.
E. H. Guild, Ware.
Roswell Billings, Hatfield.

Barnstable County.

I. C. Young, Wellfleet.
Thos. H. Lawrence, Falmouth.
B. C. Cahoon, East Falmouth.
Richard Olney, Falmouth.
Ezra T. Pope, Sandwich.
John A. Loring, West Barnstable.

Franklin County.

N. A. Cutter, Greenfield.

Sunapee Trout (*American Saibling*).

In the Appendix will be found an interesting article by Professor Garman, on the famous Sunapee trout, claiming that it is identical with the European saibling, — *Salmo Alpinus* of Linne.

A remarkable and somewhat heated discussion has been carried on during the past three years, not only in regard to its identity with the European variety, but also regarding the claim that it is the result of direct importation from Europe by the late United States Commissioner Baird. Upon this point we have some knowledge bearing upon the case.

The suggestion of establishing hatching works at Plymouth, N. H., originated with the chairman of the Massachusetts commission; the work was planned by him and completed under his supervision, in connection with Commissioner A. H. Powers of New Hampshire, since which time it has been operated jointly by the two States. A record has been kept by the Massachusetts commission and by Messrs. Powers and Hodge of the New Hampshire commission of all fish hatched at the works, and credit given for all donations received from the United States commission. We are therefore able to state that no European saibling hatched at these works were ever planted in Sunapee Lake or Dan Hole Pond; nor have any been deposited there by the United States commission, the State commission, or by any known individual; nor have they been planted in any streams from which they could have reached these lakes. Furthermore, the streams leading from them are barred by impassable dams, over which it is impossible for fish to reach the lakes from the sea.

It is true that in 1881 Professor Baird sent several thousand saibling eggs to the hatchery at Plymouth, and all the fry, except a few which were retained for experiment at the works, were by his orders planted in Newfound Lake, since which time they have not been heard from.* Sunapee Lake is situated on the western divide, discharging its waters into the Connecticut, while Newfound Lake discharges into Baker's River, and thence into the Merrimac.

The first information we had concerning the Sunapee trout came through the late A. H. Powers, then commissioner of New Hampshire, and superintendent of the hatchery at Plymouth, and whose residence was at Grantham, only a few miles from the lake. As near as we can recollect, this was in 1878 or 1879. Mr. Hayes, also of the New Hampshire commission, claimed that there was a new variety of trout in Dan Hole Pond in Ossipee, and sent to the Museum of

* The record shows that when these eggs were placed upon the trays, they were estimated by Mr. Powers at a little over 36,000, from which were hatched about 30,000 fish, which were planted as above stated. The statement in the United States report, that 60,000 saibling eggs were sent to New Hampshire, must have been a mistake in the figures, as there could not have been over 42,000, of which about 5,000 were lost in transit, 6,515 lost in hatching, and a small loss of fry before turning them into the lake.

Comparative Zoölogy at Cambridge, April 14, 1884, a specimen weighing four pounds, and twenty-one inches in length.

This was described and figured in the Massachusetts report for 1884. It could not have been less than five years old, and probably twice that age; and no one having any knowledge of fish culture would claim that it was the result of the planting of European saibling in Newfound Lake in 1881. The Dan Hole trout has since been proved to be identical with the Sunapee trout.

So far, we question the identity of these trout with the European saibling, because of the resemblance. As well might we claim that the American grayling and the pike of our great northern lakes are introduced species. "Doctors disagree," and the well-known conflicting statements made by scientists in regard to the genus *salmo* is proverbial. Professor Bean, who has had an opportunity to study the Sunapee trout and the *Salmo Alpinus* alive, side by side, finds a marked difference between them, and is reported as saying that they cannot be claimed to be one and the same fish; and we are inclined to think he is right.

The fact that the Sunapee trout has not before come into general notice is not remarkable, for until within a few years this lake was not a resort for anglers. The successful introduction of black bass first called the attention of sportsmen to it, and even now, when it has been thronged by intelligent visitors, many of the old settlers around the lake, who in years past slaughtered these fish on their spawning beds, cannot tell the difference between them and a common brook trout. The question which really interests the public is the fact that there exists in Sunapee Lake, in large numbers, a remarkable variety of trout hitherto but little known, and that it is being successfully planted in other waters.

We would be sorry to feel obliged to deprive any one of the credit of introducing this fish into Dan Hole Pond or Lake Sunapee; but, whatever else may be said of it, we feel certain that it will be found to be indigenous to these waters, and that it was known here years before any saibling eggs were sent to this country.

Since writing the above, we have received the following

communication from Commissioner E. B. Hodge, of New Hampshire, superintendent of the works at Plymouth: —

STATE OF NEW HAMPSHIRE.

FISH AND GAME COMMISSION,
PLYMOUTH, Dec. 15, 1890.

Hon. E. A. BRACKETT, *Commissioner on Inland Fisheries, Winchester, Mass.*

DEAR SIR: — In reply to your inquiry, the first saibling eggs received in New Hampshire came in January, 1881, about 40,000, or, as Mr. Powers called them, a little over 36,000. These were hatched and the young fry were all deposited in Newfound Lake, by order of Professor Baird, commissioner of fisheries for the United States. No saibling have ever been planted in Dan Hole Pond in Ossipee, or in Sunapee Lake. In 1880 100,000 eggs of the saibling were sent to the United States commission, and, at the suggestion of Mr. Livingston Stone, they were sent to Mr. W. L. Gilbert of Plymouth, Mass.; only about 6,000 hatched.

When I took charge of this station I found ten or twelve saibling, one year old. In 1884 some of the females, then about ten inches in length, bred, and were crossed with the brook trout.

Yours very truly,

E. B. HODGE.

SALMON IN THE MERRIMAC.

The salmon in the Merrimac are steadily increasing. Sixty were taken this year at the hatchery at Plymouth, N. H., on their way from the sea to the head waters of the river. These were placed in the Reservoir Pond for the purpose of securing their eggs, and, when spawned, were returned to the water alive.

"There are a little over 200,000 eggs now in the hatchery. Although the number of salmon taken was larger than ever before, yet many of them run very small, some not giving over from 3,500 to 4,000 eggs." This is a good showing, considering the great number which are annually unlawfully destroyed by the gill nets and weirs before they have time to enter the river for spawning. But for this destruction the river would now be teeming with these fish, and would be a great resort for those who take them with hook and line. The planting of a great salmon river has been successfully established. There are no impediments to the passage of

these fish to the head waters of the river, and as yet no impurities in the water injurious to them.

The English government, by wise laws strictly enforced, have been able to maintain their salmon fisheries to their full capacity. When it is remembered that the river Tay, a stream very much smaller than the Merrimac, yields an annual return of from 65,000 to 70,000 salmon, and that it pays a rental of $75,000 per year, some idea may be formed of what the Merrimac would be if the salmon could be protected until they become sufficiently numerous to be self-sustaining. There is no speculation or theory in this; it is simply a common-sense, business view, based upon what has repeatedly been accomplished elsewhere. If the weirmen would co-operate with the commissioners by liberating the salmon taken in their traps, the greatest impediment to the increase of salmon would be removed. Encouraged by the success on the Merrimac, the commissioners of New York, aided by the United States commissioners on fisheries, are successfully stocking the Hudson River.

For further information on the subject of salmon in the Merrimac, we append the report of Mr. E. B. Hodge, one of the New Hampshire commissioners, and superintendent of the joint hatchery at Plymouth, N. H.

To the Commissioners on Inland Fisheries for the Commonwealth of Massachusetts.

Gentlemen: — With this please find my annual report of the work at this station for the year ending Dec. 1, 1890.

February 1 I received from Bucksport, Maine, 40,000 Penobscot salmon (*Salmo Salar*) eggs, in good condition. These eggs were donated to New Hampshire by Colonel McDonald, United States fish commissioner. These, with the eggs taken from the Merrimac River salmon, were hatched, and the young fry were planted in the head waters of the Pemigewassett River early in May. The percentage of loss on the eggs was very small, not exceeding two per cent., and there was no loss in transporting the young fry up the river.

There was a large run of salmon this year. While some of them were very large, the majority were smaller than usual, many of them weighing only from eight to ten pounds each, while some of the largest fish would exceed twenty-five pounds in weight.

The water in the river has been unusually high during the entire season. There has been no time since the first of September when it was possible to keep the nets in position to secure the usual fall run of salmon. Sixty fish were taken and placed in the Reservoir Pond. Some of these were taken from pools on the falls, and were badly bruised. Five died from the effect of wounds received in attempting to go over the new dam at the head of the falls. As many as fifty salmon were at one time lying in the pool at the foot of the dam. This fact substantiates my statements in former reports, that only a small percentage of the fish that enter the river are captured in the pound nets, for the reason that two hours will change the river from a fordable stream to a foaming torrent, which sweeps nets and everything before it.

Four hundred and sixty-two thousand eggs of the brook trout were sent to Mr. Brackett at Winchester, 35,000 to Northampton, and 10,000 to Great Barrington, by the direction of the chairman of your commission. There are now over 1,000,000 eggs of the brook trout laid down in the hatchery, one-half of which will be sent to Massachusetts next month. Some of the trout spawned in July and August. No ripe males could be found to fertilize the eggs, so they were lost. Ripe males and females were found early in September, and the first eggs taken are now hatched. I have been able to purchase only 886 wild brook trout, as the change in the legal length to five inches raised the price higher than I could afford to pay. These were paid for with money received from the sale of male trout. This lot will more than make up for the loss that has occurred by death, kingfishers, mink and other vermin.

The dam at the outlet of the Reservoir Pond has been built over, and the plank replaced with solid earthwork. The spout that carries the water away at outlet has been replaced by a new and better one, and the dam is now in a much safer and better condition than it has been for some years. Repairs and changes are now in progress at the trout ponds, rendered necessary by the growth of the wild trout purchased last year. In regard to keeping the fry of the salmon until at least one year old, I consider it to be inexpedient, and, as far as this river is concerned, unnecessary, as the fry do not have to be carried for over one hour in the cans. The plant can be made before the yolk sac is absorbed, and, when ready to take food, they are in the same place that they would have been had they been hatched naturally in the river; and they are far more likely to find food more suitable to their wants than anything that can be supplied artificially at that season of the year. The large numbers of parr and smolt that can be found in the river and its tributaries during the summer proves beyond

doubt that the fry do grow to that size in numbers sufficient to tax the food supply to nearly if not quite its maximum capacity.

Yours respectfully,

ELLIOTT B. HODGE, *Superintendent.*

PLYMOUTH, N. H., Dec. 1, 1890.

By chapter 390, Acts of 1890, the commissioners were authorized to purchase a steamer for the purpose of enforcing the laws relating to the shore fisheries of the Commonwealth. Soon after the passage of this act, the steamer "Ocean Gem," of New York, was purchased. She is one hundred feet long, seventeen feet wide, and about seven feet deep, with fine sea-going qualities, having for some years carried the United States mails from Key West to Cuba. She easily runs fourteen knots an hour, and has sufficient accommodations for officers and crew. She has proved to be a valuable boat for the protection of the lobster fisheries and the enforcement of the laws in Buzzard's Bay, which it was impossible to enforce without a steamer of this description, as many of the menhaden steamers are very fast, and can easily escape from any common steamer. She patroled the bay four weeks, keeping in check the fleet of steamers from other States which were persistent in their efforts to violate the laws of the Commonwealth, whenever an opportunity occurred; and it was only by constant patrol that the law could be enforced.

Although it was not possible to put the steamer in commission before the first of July, she did excellent work in breaking up the illegal traffic in short lobsters, which heretofore have been shipped in large numbers to the New York market, and in the complete maintenance of the authority of the State over the waters of Buzzard's Bay. This and other important work, which can only be accomplished by the use of a steamer, render her necessary to the State if the fisheries are to be maintained and the laws enforced. To this may be added the opportunity it affords of studying the habits of fish and the acquirement of information which may lead to the better protection and increasing of this important industry.

Commissioners on Inland Fisheries and Game.

Gentlemen: — As district police officer, detailed for the use of the commission, I respectfully submit the following report.

I have sent to each lobster fisherman a blank to be filled out by him, with number of traps used and daily catch; and also to each person who owns weirs, pounds and nets; and I find, in most cases, a willingness to comply with the law.

I have patroled the Massachusetts coast during the months of July, August, September and October, in the steamer "Ocean Gem," spending most of the time in the waters south of Cape Cod. On our trial trip around Cape Cod, on July 10, I went to Wood's Holl with the intention of taking on board a supply of coal, but being informed, on my arrival, that I could not get any coal at that place, I started for New Bedford. While crossing Buzzard's Bay I found the steamer "Fearless," of Newport, fishing in the bay. As there had not been any complaint made of any violations of the law since the seizure of the "Joseph Church," which happened nearly one year before, the sudden appearance of the porgy steamer was wholly unexpected. After I had overcome all resistance, and quietly fastened a tow line to the craft, my engineer informed me that he had not coal enough to get into port, and could not possibly tow the loaded fishing craft to New Bedford or elsewhere. As I was the only officer on board, I could control only one end of their steamer; so, when I found that the "Ocean Gem" was short of coal, I was obliged to abandon the prize.

No other violations of the seining law came to my notice until September 14, while the "Ocean Gem" was at Salem. I started at once, and arrived at the bay on the following day. On the 16th of September the steamer "Commodore," of New York, was violating the law, but it was impossible to get on board.

I stopped in the bay from September 16 until October 12, this being the ninth time I had been there the past season. I patroled the bay each day from daylight until dark, and encountered at different times eighty-five menhaden steamers from other States, that came into Buzzard's Bay for the purpose of seining menhaden. Some would wait for hours along the State line or behind one of the islands for a chance to dodge in and catch a school as soon as my back was turned. I have counted fourteen steamers hanging around the mouth of the bay at one time, waiting for the "Ocean Gem" to leave. Some of the captains would curse at me and get angry; while others would inquire how long I was going to stop, and, on receiving an answer, "as long as the fish do," would steam away and I would not see them again. Others would

inquire where the line was, and steam just outside; but the next morning, when daylight appeared, I would find them up at the head of the bay, intending to take in a load before the "Ocean Gem" arrived on the ground. This kind of business continued every day, and, although the fish were very plenty, no attempt was made to set a seine, and consequently many thousand barrels of menhaden have remained in Buzzard's Bay through the past season that would have been made into oil and guano but for the presence of the "Ocean Gem."

Whole number number of arrests,		19
Lobster law,	15	
Fish law,	3	
Capias,	1	19
Disposed of as follows: —		
Fined and paid,	15	
Appealed to superior court,	1	
Discharged,	3	19

Respectfully submitted,

WM. H. PROCTOR,
District Police.

Lobsters.

Compared with last year's reports there has been a decrease this year of 462 traps; an increase of 252,484 in the catch of marketable lobsters; and an increase of 9,067 egg-bearing lobsters returned to the water alive.

The season was too far advanced, when the steamer was bought and put in commission, to allow of anything being done beyond the enforcement of the law for their protection, and the continuance of the investigations commenced last year. These investigations, although well under way, could not be completed in time for this report, and will probably be given in that for next year.

Weirs, Pounds and Gill Nets.

This has not been a prosperous year for the shore fishermen, especially the weirmen. The returns show a decrease below last year of 61 seines, 11,168 shad, 579,009 alewives, 14,437,039 sea herring, 979,109 scup, 46,243 tautog, 87,064 flounders and flatfish, 118,794 eels, and 903,673 other edible fish; and an increase of 2,605,452 menhaden, 868 striped

bass, 4,488 squeteague, 346,510 mackerel and 2,036 bluefish. The run of shore herring, from which the weirs usually furnish large quantities for bait to vessels engaged in the deep-sea fisheries, was a total failure. Several of the prominent weirmen, discouraged by the results of their labor, propose to retire from the business.

The mackerel have been mostly small. During portions of the season there were large quantities of them in our waters, which indicates that in a few years our market will be well supplied with mackerel, the most desirable of all deep-sea fish.

Birds and Game.

The year has been a favorable one for the increase of our game birds. The continuance of our wholesome laws is desired The operation of the non-export law of 1890 is already showing excellent results. The annual invasion of our Commonwealth by men from other States, for the purpose of killing our game for foreign markets, is already practically stopped. The only way in which this business can be successfully done at present is by stealth, and at the risk of detection and punishment. So far, in all instances where we have acted under this law, we have found the common carriers in sympathy with the law, and ready to give us information which they have.

Private enterprise here and elsewhere, especially in the West, is demonstrating the fact that some of the best of the game birds of Europe can be successfully introduced and bred here; and it now appears that in a short time the list of our birds will be enlarged by the adoption of these desirable additions, which will, in a short time, we believe, become adapted to our climate, and be a permanent addition to our native birds.

We do not learn that chapter 446 of the Acts of 1890 has had any appreciable effect in the diminution of the English sparrow pest. In no town or city have we found any attempt made to put the law in practical operation. If a law be passed authorizing towns and cities to pay a bounty for bodies and eggs of the sparrows, it would soon show results. Such a law, carefully guarded for the protection of private rights, we believe desirable.

Sunday hunting, in many of the country towns and villages, has been and is a great annoyance as well as an offence under the statute. By the aid of deputy commissioners this practice has been almost entirely broken up in several of the counties.

The following permits to take birds and eggs for the year 1890 were granted:—

C. F. Batchelder,	Cambridge.
Chas. H. Andros,	Taunton.
Harry Gordon White,	Gloucester.
Edward C. Mason,	Cambridge.
Albert P. Moore (for Wellesley College),	Natick.
Howard Noris,	Cottage City.
Arthur C. Bent,	Taunton.
William Brewster,	Cambridge.
Owen Durfee,	Fall River.
Geo. B Churchill (for Worcester Natural History Society),	Worcester.
Frank A. Coombs,	Framingham.
C. W. Chamberlain,	Boston.
Geo. H. Mackay,	Nantucket.
Henry W. Marsden,	Quincy.
Dr. L. C. Jones,	Boston.
W. S. Barker, Jr.,	Medford.
Capt. M. E. Gould,	Chatham.

In conclusion, it may be stated that the work of the commission has been successfully carried on during the past year. Among the most prominent points may be mentioned the investigation of the habits of lobsters, and the protection of this important industry; the distribution over the State of 450,000 young trout; the stringent enforcement of the laws governing inland fisheries and game, and the complete maintenance of the authority of the Commonwealth over the waters of Buzzard's Bay. Eighty-five steamers which entered the bay for unlawful purpose, were met and driven out. None of these vessels were owned by citizens of this State.

The case of the three steamers captured last year in Buzzard's Bay has been decided by the full bench of the supreme court of the State in favor of the Commonwealth. Defendants have appealed to the United States supreme court, where a hearing will be given on the third Monday of January. Should the decision be sustained, the State will receive, for fines and confiscation of vessels, about $40,000.

The importance of maintaining the laws on Buzzard's Bay cannot be over-estimated, as it is practically demonstrated to be the most feasible method by which the inshore fisheries can be restored to their former value. The civilization of this country has carried with it not only the destruction of our forests, but also a disregard of the preservation of fish and game. Against the inherited idea that every one has a right to take fish and game when and where he pleases, regardless of the future, every commissioner in the United States has had to struggle; and, in the face of such opposition, it is remarkable that so much has been accomplished. Not until the public fully realizes that fish and game are as essential in the economy of living as bread and meat, and that their increase and preservation are as much dependent upon intelligent control as the products of the farm, will the labors of the commissioners be appreciated.

It may be a long time before our people adopt measures that have been successfully carried out in other countries. "In China, where the overcrowded population has rendered it necessary to convert every available acre of land into a farm-garden, pasturage has been converted into fish ponds, producing food at one-eighth the cost of that derived from quadrupeds." With us the price of fish is steadily advancing. Considered as an element of sustenance, it is to-day more expensive than meat.

We copy the following from the "American Field": —

Editor "American Field": — The United States fish commission is one of the most valuable adjuncts of the government, and the people are beginning to find it out, for the commission comes in closer contact with them than any other department of the Federal government. No department of the government makes a better showing for the money expended than the United States fish commission, over which Colonel McDonald presides.

If every branch of the government were conducted equally well and as conscientiously, the government of the people would be marvelously grand. The work of the commission is now thoroughly organized, and its efforts directed to the planting of fish in waters that are known to be naturally adapted to the various species. The country is divided into districts, and the fish naturally belonging in each of these geographical divisions are

deposited in the streams of each locality in large numbers. In the performance of this work the agents of the commission last year travelled 125,000 miles, of which the trunk lines contributed, without expense to the government, 41,000 miles. This was a liberal act on the part of the railroads, and at the same time it showed that the railroad people have an intelligent appreciation of the value of the work of the fish commission. In stocking the streams along the lines of travel fishermen will be attracted, and in this way the railroad companies will reap a large profit from their donations to the Commission from the increased travel that will follow.

What is here said of the United States commission may be applied with more or less force to all of the State Commissions. From the mass of conflicting opinions which marked their early efforts, they have gradually settled down to a clear conception of the practical character of the work to be accomplished.

While the State commissions have maintained their individuality and distinct organization, the harmony existing between them and the United States commission is such as to unite the whole work into one system. This has been accomplished by the authorities at Washington heartily extending to the States such encouragement and assistance as they were able to give.

EDWARD A. BRACKETT,
EDWARD H. LATHROP,
ISAIAH C. YOUNG,
Commissioners of Inland Fisheries and Game.

APPENDIX.

[A.]

LIST OF FISH COMMISSIONERS.

The United States.

Col. Marshall McDonald, Commissioner, . Washington, D. C.
Capt. J. W. Collins, Assistant in Charge of Fisheries Division.
Richard Rathbun, Assistant in Charge of Scientific Inquiry.

Alabama.

Col. D. R. Hundley, ... Madison.
Hon. Chas. S. G. Doster, ... Prattville.

Arizona.

T. W. Otis, ... Prescott.
John Howard, ... Prescott.
C. W. Stearns, ... Phenix.

Arkansas.

H. H. Rottaken, President, ... Little Rock.
W. B. Worthen, Secretary, ... Little Rock.
J. W. Calloway, ... Little Rock.
This State has never made an appropriation for fish culture.

Dominion of Canada.

Hon. John Tilton, Deputy Minister Fisheries, Ottawa.
Inspectors of Fisheries for the Dominion of Canada: W. H. Rogers, Amherst, N. S.; A. C. Bertram, North Sydney, C. B, N. S.; W. H. Venning, St. John, N. B.; Wm. Wakeham, Gaspé Basin, P. Q; J. H. Duvar, Alberton, P. E. I.; Thomas Mowat, New Westminster, B. C.; Alex McQueen, Winnipeg, Man.
Officers in Charge of Fish-breeding Establishments: S. Wilmot, Superintendent of Fish Culture, Newcastle, Ont.; Chas. Wilmot, Officer in Charge, Newcastle hatchery, Ont.; Wm. Parker, Sandwich, Ont.; L. N. Cattellier, Tadoussac, Q.; Philip Vibert, Gaspé, Q.; A. H. Moore, Magog, Q.; Alex Mowat, Restigouche, Matapedia, P. Q.; A. B. Wilmot, Bedford, N. S.; C. A. Farquharson, Sydney, N. S.; Isaac Sheasgreen, Miramichi, N. B.; Charles McCluskey, St. John River, Grand Falls, N. B.; Henry Clark, Dunk River, P. E. I.; Thomas Mowat, B. C. hatchery, New Westminster, B. C.

CALIFORNIA.

Joseph Routier, ... Sacramento.
J. D. Harvey, ... Los Angeles.
C. M. Joslyn, ... San Francisco.

COLORADO.

G. F. Whitehead, ... Denver.

CONNECTICUT.

Rob't B. Chalker, ... Saybrook.
James A. Bill, ... Lyme.

The State has no official superintendent, most of the hatching being done by Henry J. Fenton, Poquonnock.

DELAWARE.

Charles Schubert, ... Odessa.

GEORGIA.

J. H. Henderson, ... Atlanta.
Dr. H. H. Cary, Superintendent, . . . La Grange.

ILLINOIS.

N. K. Fairbank, President, ... Chicago.
S. P. Bartlett, ... Quincy.
Geo. Brenning, ... Centralia.

INDIANA.

Col. W. T. Dennis, ... Richmond.

IOWA.

E. D. Carlton, ... Spirit Lake.
Ole Bjorenson, Superintendent.

KANSAS.

John M. Brumbaugh, ... Concordia.

KENTUCKY.

Wm. Griffith, President, ... Louisville.
P. H. Darby, ... Princeton.
John B. Walker, ... Madisonville.
Hon. C. J. Walton, ... Munfordsville.
Hon. John A. Steele, ... Midway.
W. C. Price, ... Danville.
Hon. J. M. Chambers, ... Independence.
A. H. Goble, ... Catlettsburg.
J. H. Mallory, ... Bowling Green.

MAINE.

E. M. Stilwell,	Bangor.
Henry O. Stanley,	Dixfield.
B. W. Counce, Sea and Shore Fisheries,	Thomaston.

MARYLAND.

Dr. E. W. Humphries,	Salisbury.
G. W. Delawder,	Oakland.

MASSACHUSETTS.

E. A. Brackett,	Winchester.
I. C. Young,	Wellfleet.
E. H. Lathrop,	Springfield.

MICHIGAN.

John H. Bissell,	Detroit.
Herschel Whitaker,	Detroit.
Joel C. Parker, M.D.,	Grand Rapids.
Walter D. Marks, Superintendent,	Paris.
George D. Mussey, Secretary,	Detroit.
William A. Butler, Jr., Treasurer,	Detroit.

MINNESOTA.

William Bird,	Fairmount.
Niles Carpenter,	Rushford.
Robert Ormsby Sweeny, President,	St. Paul.
S. S. Watkins, Superintendent,	Willow Brook, St. Paul.

MISSOURI.

H. M. Garlichs, Chairman,	St. Joseph.
J. L. Smith,	Jefferson City.
H. C. West,	St. Louis.
A. P. Campbell, Secretary,	St. Joseph.
Philip Kopplin, Jr., Superintendent,	St. Louis.
Elias Cottrill, Superintendent,	St. Joseph.

NEBRASKA.

William L. May,	Fremont.
R. R. Livingston,	Plattsmouth.
B. E. B. Kennedy,	Omaha.
M. E. O'Brien, Superintendent,	South Bend.

NEVADA.

Geo. T. Mills,	Carson City.

NEW HAMPSHIRE.

George W. Riddle,	Manchester.
Elliott B. Hodge,	Plymouth.
John H. Kimball,	Marlborough.
Elliott B. Hodge, Superintendent of Plymouth and Sunapee hatcheries,	Plymouth.

New Jersey.

William Wright, ... Newark.
Frank M. Ward, ... Newton.
J. R. Elkinton, ... Pennsgrove.

New York.

E. G. Blackford, President, ... New York.
Gen. R. U. Sherman, ... New Hartford.
William H. Bowman, ... Rochester.
A. S. Joline, ... Tottenville.
Henry Burden, ... Troy.
E. P. Doyle, Secretary, room 311, Potter Building, ... New York City.
Superintendents: Fred Mather, Cold Spring Harbor; Monroe A. Green, Caledonia; James H. Marks, Bloomingdale; E. L. Marks, Fulton Chain; and E. F. Boehm, Mill Creek.
Shell-fish Commission: E. G. Blackford, Commissioner; William G. Ford, Engineer; J. W. Merserau, Oyster Protector, 80 Fulton Market, New York.

North Carolina.

William J. Griffin, Chairman, ... Elizabeth City.
J. B. Watson, ... Englehard.
William T. Caho, ... Bayboro.

Ohio.

C. V. Osborn, President, ... Dayton.
A. C. Williams, Secretary, ... Chagrin Falls.
J. C. Hofer, ... Bellaire.
John H. Law, ... Cincinnati.
Hon. Emery D. Potter, ... Toledo.
Henry Douglass, Superintendent, . . . Sandusky.
L. K. Buntain, Chief Warden, ... Dayton.

Oregon.

F. C. Reed, President, ... Clackamas.
E. P. Thompson, ... Portland.
R. C. Campbell, ... Ranier.

Pennsylvania.

Henry C. Ford, President, 524 Walnut Street, Philadelphia.
James V. Long, Corresponding Secretary, 75 Fifth Avenue, ... Pittsburg.
H. C. Demuth, Secretary of Board, . . . Lancaster.
S. B. Stilwell, ... Scranton.
A. S. Dickson, ... Meadville.
W. L. Powell, Treasurer, ... Harrisburg.
John P. Creveling, Superintendent, . . Allentown.
William Buller, Superintendent, . . . Corry.

RHODE ISLAND.

Henry T. Root, Treasurer, ... Providence.
William P. Morton, Secretary, ... Johnston.
J. M. K. Southwick, ... Newport.

SOUTH CAROLINA.

Hon. A. P. Butler, ... Columbia.

TENNESSEE.

W. W. McDowell, ... Memphis.
H. H. Sneed, ... Chattanooga.
Edward D. Hicks, ... Nashville.

UTAH.

A. Milton Musser, ... Salt Lake City.

VERMONT.

Herbert Brainard, ... St. Albans.
F. H. Atherton, ... Waterbury.

VIRGINIA.

Dr. J. T. Wilkins, ... Bridgetown.

WEST VIRGINIA.

C. S. White, President, ... Romney.
F. J. Baxter, Treasurer, ... Sutton.
James H. Miller, Secretary, ... Hinton.

WISCONSIN.

The Governor, *ex officio*,
Philo Dunning, President, ... Madison.
C. L. Valentine, Secretary and Treasurer, . Jamesville.
Mark Douglass, ... Melrose.
A. V. H. Carpenter, ... Milwaukee.
Calvert Spensley, ... Mineral Point.
E. S. Miner, ... Sturgeon Bay.
James Nevin, Superintendent, ... Madison.

WYOMING TERRITORY.

Louis Miller, ... Laramie.

[B.]

Museum of Comparative Zoölogy,
Cambridge, Mass., Dec. 3, 1890.

Hon. E. A. Brackett, *Massachusetts State Fishery Commissioner.*

Sir: — In response to your request for items of information received at the Museum of Comparative Zoölogy, bearing on the results of the labors of the fishery commission, I have the honor to enclose to your address a note on the carp, another on the river trout, and a third on the saibling.

Very respectfully,

S. Garman.

MASSACHUSETTS CARP.

Comparatively little has been heard, at this museum, from the carp with which the waters in various parts of the State have been stocked by the fishery commission. An occasional notice indicates that they are prospering, and that they are recognized as good for food; but there have been very few inquiries about them. The most direct and important piece of information that has reached us came in connection with a number of bones, secured by Mr. Edwin L. White of Ayer, brought in for identification by Mr. William Hapgood. The portions submitted were determined to be from a specimen of the "king carp," the *Cyprinus rex cyprinorum* of Kramer and Bloch. At my request, Mr. White, who was instrumental in saving the pieces, gathered all that was possible of the history of the case. The fish had been shot in Kilburn's Pond, on the Mulpus Brook, in the eastern part of Shirley, about Sept. 3, 1888, by Calvin L. Farnsworth, Esq. When caught it measured thirty-one inches from the end of the nose to the tip of the tail, measuring over the back; and it was twenty-five and a half inches long as it lay flat on a board. Its body was ten inches wide and five inches thick. When the fins on the back and on the belly were spread out, it was sixteen inches from the top of the upper to the bottom of the lower. It weighed sixteen pounds and a half when taken from the water. The tail would spread eleven inches. Some of the scales were fully two inches broad by one and a quarter inches long. The body was hardly one-third covered by scales;

there were some along the back and some along the sides, but none on the belly. The specimen was a female, filled with spawn. It was taken from a small pond of some four or five acres, that had not been drawn off entirely for thirty years. A low dam was all that prevented the fish from going up stream a number of miles, and the gates in this obstacle had been open for months at a time. In response to inquiries, Mr. White secured a number of stories of small fishes introduced into the pond as live bait, young bass and the like; but that which gives the most plausible clew to the derivation of this carp was learned from Mr. Herbert Mead, living in the northern part of Lunenburg, who has a small pond on which he cuts ice in the winter. This pond discharges into the Mulpus, though it gets very low in summer. About 1880 Mr. Mead put twenty "German carp" into his pond. In about six months, the pond being almost dry, it was emptied. Only four of the carp were found; these had grown to nearly or quite a foot in length. The sixteen others had probably gone down stream. There were several small mill ponds in the five miles from the ice pond to that in which the fish was shot, but in a freshet there were no hindrances. It is stated that a dam below Kilburn's Pond effectually prevented entrance from that direction. Now, it is altogether within bounds to suppose the carp shot in this pond to be one of those belonging to Mr. Mead. The pieces presented for determination included, among others, the spine in front of the dorsal, the pharyngeal bones and the caudal fin. They left no doubt whatever that the specimen was a carp; and, with Mr. White's description of the scales and their arrangement, the species was recognized as that known by the name "king of the carps," *Cyprinus rex cyprinorum*, of which a sketch is given on Plate I. On Plate II. a drawing of the typical carp, *Cyprinus carpio*, is given for comparison; this carp is readily distinguished by a complete covering of smaller scales. The fragments confirm Mr. White's statements in regard to the size. From data gathered from different sources, a length of twenty-five and a half inches might be reached in six years, varying more or less with the amount of food and the warmth of the water. Fifteen pounds in five years were attained in the carp ponds of Mr. Poppe, who in 1872 began carp farming in California. In the first year they acquired a length of twelve inches. Others have grown to about six pounds in three years. According to Hessel, some had become three-pounders in two summers. This authority also mentions two specimens that, at fifteen years of age, weighed forty-two and fifty-five pounds respectively, and he comments on others up to ninety pounds. Carp are known to live more than a century. It may be there are earlier dates

than 1880 for the introduction of these fishes into this State; if so, they are not at present at hand. In the "Proceedings of the Boston Natural History Society," volume XXIV., page 168, the correspondence relating to Mr. White's carp is published in full.

NOVEMBER, 1890.

THE RIVER OR BROWN TROUT.

A single specimen of this trout, *Salmo fario* of Linné, from the grounds of Wm. J. Wright, Esq., of Duxbury, was forwarded to the Museum of Comparative Zoölogy by Messrs. Geo. B. Appleton & Co. of Boston. The fish was a very handsome one, about twelve inches in length, and, as is generally the case with the first captures of fishes introduced by means of the eggs, had attracted a great deal of attention, and excited much comment as to what it was and whence it came. The sketch on Plate III. will give an idea of its shape and of the number and arrangements of the spots. Red spots are indicated by the dotted rings. The entire upper surface of the body and head was brown, darkening toward the back and the top of the head, and darker at the edges of the scales. There were thirteen rays in the dorsal fin and eleven in the anal. The lateral line had one hundred and nineteen pores and one hundred and fifty-three scales. From the dorsal to the lateral line there were twenty-two rows of scales, and from the line to the ventral fin twenty-seven. The length of the body was nearly four and a half times the depth, or three and two-thirds times as long as the head. The latter was about one and one-fifth times the depth, six times the length of the eye, or nearly three times the length of the snout. Inquiries addressed to Mr. Wright concerning dates of introduction, etc., were kindly replied to as follows: "The trout sent you by Mr. Appleton was caught April 27 in my pond, known as the John Alden Pond, in Duxbury. A brook flowing to the salt water was diked, and the pond now covers about four acres. The salt water does not enter the pond. I have stocked it for the last nine years. Some of the seed came from Mr. Gilbert's Old Colony ponds at Plymouth, Mass.; seven thousand came, June 5, 1885, from Mr. Brackett's, of Winchester, Mass.; and five hundred English trout, furnished by Mr. Gilbert, were put in three years ago. I have also put in two hundred and fifty large trout taken from my pond in North Pembroke."

As closely as may be decided from a single specimen, the variety of river trout introduced is that described by Valenciennes, in 1848 (Hist. Poiss., XXI., page 319, plate 618), as *Salar ausonii*. Yet the figure given by this author shows a greater distribution of larger black spots, does not indicate the

red ones, and indicates the commonly present brown spot on the second dorsal fin. The shape may be described as rather chunky. The lobes of the tail in the Duxbury specimen are somewhat more pointed than the average. In respect to the caudal outlines and the markings, the species is liable to great variations. Sizes and the colors vary excessively, as affected by food, surroundings, etc. In Europe the most common size is less than twelve inches, and the weight less than a pound. One noticed by Heckel and Kner was thirty-five inches long, and weighed twenty-two pounds; others of three to four feet in length are mentioned by Valenciennes. As is the case with our brook trout, the river trout, or brown trout, as it is likewise called, matures very early, the female becoming ripe when not more than eight inches long. The spawning season occurs between October and January; the incubation period is about sixty days, more or less, according to the temperature.

While this trout is most often of a dark color, it becomes paler in clear waters, over gravelly or sandy bottoms; or even gets to be silvery on going to the sea. It favors clear, cold, running waters, and delights in the dashing currents below the rapids or at the mouths of the streams. Small fishes, worms, spawn and insects, the usual food of the genus, are found in its stomach. With the different kinds of food, the seasons, and in the different waters, there is great variation in the quality of the flesh. The variability and irregularity of its appetite make a close study of its habits a necessity to successful fishing with the hook and line. As it feeds greedily on the flies, makes vigorous rushes, leaps like a salmon, and is a good pan fish, it is a favorite with the angler.

December, 1890.

NEW ENGLAND SAIBLING.

Since the year 1884 a great deal of attention has been attracted to the Sunapee, golden, or white trout, as it is variously called. Its apparently increasing abundance in the three or four years that have just passed, the superior quality of its flesh, and the beauty of its proportions and colors, have given it a reputation that cannot be otherwise than gratifying to those through whose efforts the waters of the region have been stocked with desirable fishes and their food. As the fish has been acquiring its prominence, there has arisen a considerable discussion concerning its identity and derivation. How it reached Sunapee Lake, and how it reached other waters entirely disconnected with that lake, are still open questions; and unfamiliarity with the record of the efforts of the State, or of those of individuals, for the betterment of the fishery resources of the section, is a sufficient excuse for leaving them, at least so far a

the present writing is concerned, to be discussed by others who have given the subject special consideration. Whatever conclusions may eventually be reached, it is only since the introduction of the European saibling that the Sunapee trout has been brought to general notice. Repeated examinations and comparisons discover no characters distinct enough to admit of placing the New Hampshire fish in a different species, or even a different variety, from that known in Europe as *Salmo alpinus* of Linné, the common saibling of western and northern Europe.

The first of the New England representatives to reach the Museum of Comparative Zoölogy was a female of about twenty-one inches in length, sent by Commissioner Luther Hayes, April 14, 1884, from Dan Hole Pond. The unusually stout condition of the fish, figured on Plate V., gave it a shape that did not compare satisfactorily with the descriptions, most of which had been drawn from the more common smaller and more slender forms. At the time of sending, Mr. Hayes was able to say the fish was not known to occur elsewhere in the State. Other specimens from Sunapee, for which we are indebted to the kindness of Messrs Fred. H. Gould and Walter M. Brackett, and of Commissioners E. A. Brackett and E. B. Hodge, received in 1885 and subsequent years, dispelled any doubts of specific identity with the "Alpine trout" of the European fresh waters. Colored figures of the latter, published by Prof. F. A. Smitt in his splendid monograph of the "Salmones," represent our trout as closely as if the drawings had been made from New England types. Our first positive information concerning the Sunapee trout was received July, 1885, from Messrs. Gould and Hodge.

In Europe, this trout, one of the saiblings, is gregarious, and moves about in schools; it is somewhat nocturnal in its habits, and retires to the greater depths during the day. Much of its timidity is lost during the spawning season, when it is more easily captured. Its food is the ordinary food of trout; it attains a weight of fifteen pounds or more. As most often met with, it is less than eighteen inches in length. Plate IV. gives a fair idea of the shape of the body and fins for such sizes; larger ones are better likened to Plate V. The relative proportions undergo marked changes with age and increase of plumpness. The sizes that may be attained are determined by the amount of food and its character, and by the depth of the water. Ordinarily the color is brownish to olivaceous on the upper surface, shading lighter and sprinkled more or less thickly with red spots on the flanks. The belly and lower parts of the sides are whitish, or yellowish to orange, or pink, or red. A narrow portion of the front edge of each of the lower fins

is white to cream color or reddish, the balance of each fin being pale brownish to brown. Brown, often in blotches or cloudings, is seen on the side of the face or under the chin and throat. Variations in general colorations from pale and silvery to very dark brown may be selected from a single school. The flesh is pinkish to red, varying in the individual during the season, and in the different waters; it is esteemed second to that of no other species of the family. The range of variation in the specimens, as well as in the varieties of the species, is great; the differences due to age and sex are very marked, and deformities are not at all rare.

In New England the habits of the saibling would seem to be the same as on the other side of the Atlantic. Of such as were examined, the stomachs were filled with small fishes, mainly smelt, and, in several cases, with spawn. There was evidence of fishing on the spawning beds. The spawn, with the nuptial coloration, fixed the spawning season, for Sunapee, in November. To some extent the timidity and habits of this fish tend to protect it against over-fishing. This advantage, however, is largely done away with while the eggs are being deposited, when lack of vigilance makes capture an easy matter. Preference for keeping together in schools renders the employment of nets a ready means of reducing the numbers. While there are none that excel it in the quality of its meat, the peculiarities of the disposition of the Alpine trout are such as will not permit it to stand as high as some of the others in the estimation of the angler. Though larger ones have been reported, the largest for which we can vouch weighed but four pounds.

November, 1890.

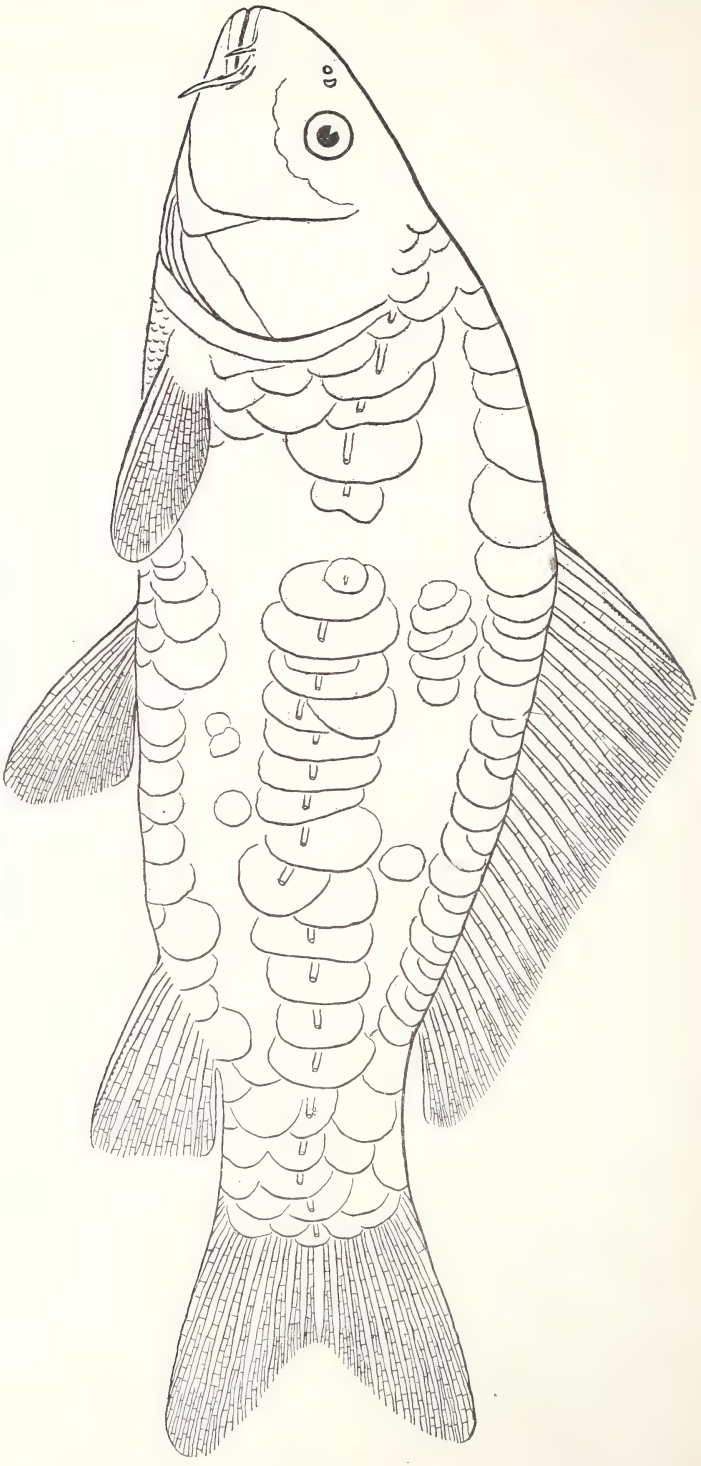

PLATE I. CYPRINUS REX CYPRINORUM *Bloch.*

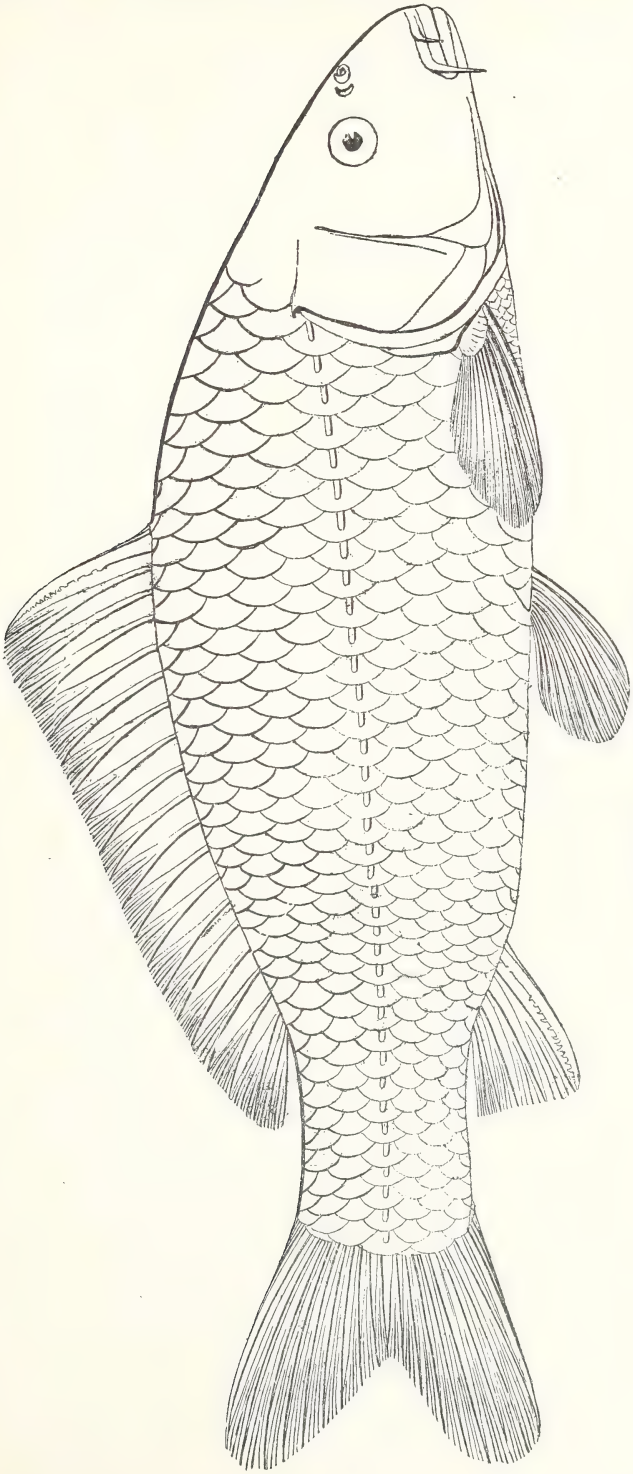

PLATE II. CYPRINUS CARPIO *Linn.*

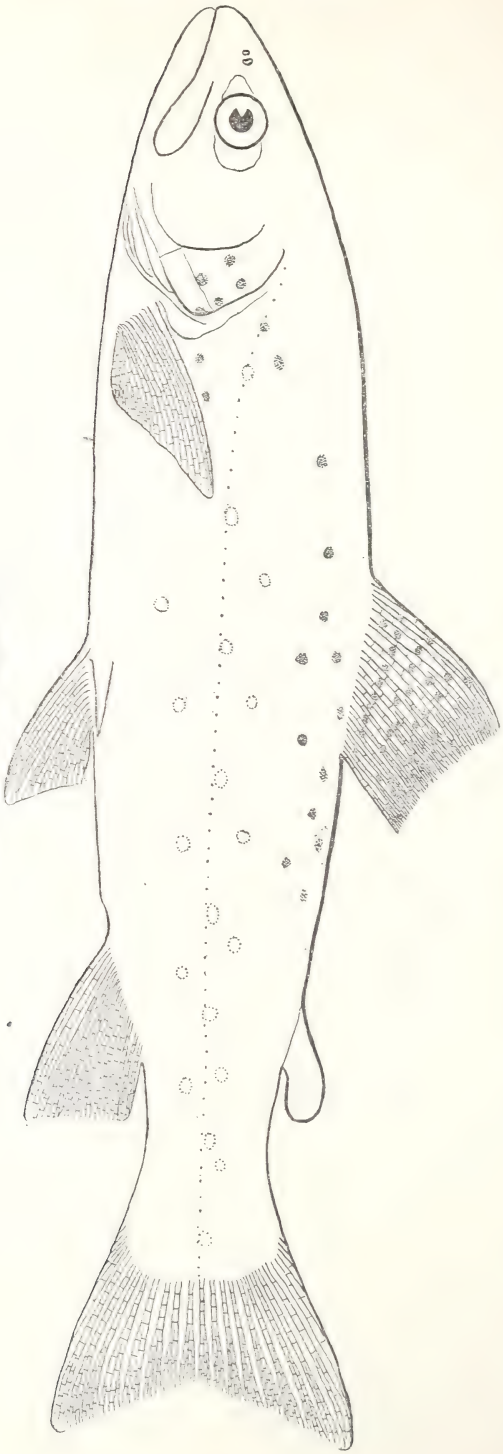

PLATE III. SALMO FARIO *Linn.*

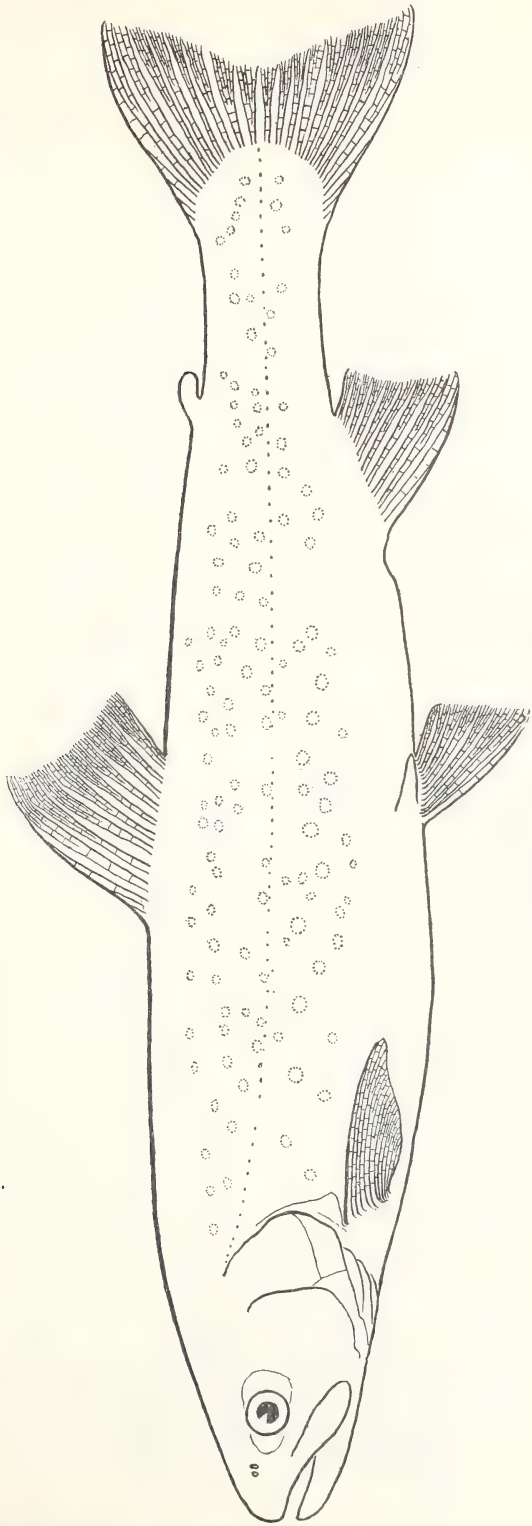

PLATE IV. SALMO ALPINUS *Linn.*

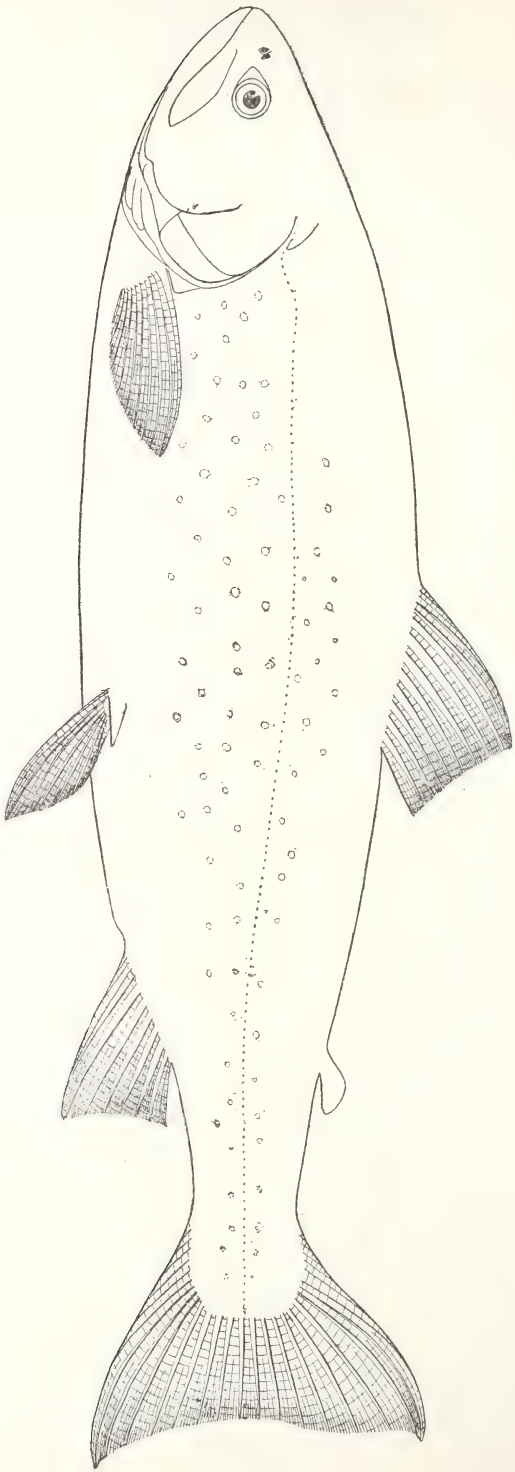

PLATE V. SALMO ALTINUS *Linn.*

[C.]

MARION, Dec. 12, 1890.

To the Commissioners on Inland Fisheries and Game.

GENTLEMEN: — Having been appointed but a few months ago as deputy to enforce the fish and game laws of the State, it will be impossible for me to make as satisfactory a report as I should wish; but, with my limited experience, I submit the following. Having visited a large number of cities and towns where lobster fishing is carried on quite extensively, I find a large majority of the fishermen wish to see the laws for the better protection of our fisheries enforced. I also find there is a certain class of fishermen who are ready and willing at any time to violate the laws; and, if the honest fishermen, who must be aware of such illegal fishing, would report such cases, it would assist the commission very much, and prove of great value to the honest fishermen themselves.

You will notice, by the returns sent in by the lobster fishermen, that, while the number of traps have decreased about one thousand, the number of large lobsters taken have increased about two hundred thousand. You will also notice that the number of egg-bearing lobsters have increased about seven thousand, proving beyond a doubt that under our present system of protection the lobsters are on the increase. Some of the present laws are rather imperfect, and, if they could be amended this winter, I think you would see a far greater increase in the lobster catch. The question of protection to our fisheries and game is gaining ground very fast, and I hope the coming Legislature will work in harmony with the commission in making laws for still greater protection. The act of last winter, appropriating twelve thousand dollars to the commission for the purchase of a steamer to better enforce the laws, has proved of great value to the towns bordering upon Buzzard's Bay. Greater results might have been accomplished if the bill had become a law earlier in the season.

As you well know, the "Ocean Gem" entered the bay July 10, under charge of State officer W. H. Proctor, and succeeded in boarding the steamer "Fearless;" but, being short of coal, and under a promise from the captain that he would not fish again in the bay, we had to abandon our prize. After cruising the bay for

a number of days, and seeing no more steamers, the boat was put back in Boston bay. The boat again entered the bay July 25, and cruised for a few days, seeing no steamers or porgies. Again we cruised the bay in August, with the same results. September 13 telegrams were received stating that porgy steamers had again entered the bay. The boat arrived at Wood's Holl September 15, and on the 17th steamer "Commodore" of New York was seen in the act of fishing; but the captain, cutting his lines and dumping his fish, managed to escape. From that time until October 10 the bay was patrolled faithfully from early morn until late at night; and, although the bay was full of porgies, and having eighty-five steamers at different times to contend with, I am happy to say I don't think a seine was wet. Great credit is due to Captain Proctor for the faithful performance of his duty, and I think the commission is fortunate indeed that they have so efficient and trustworthy an officer at their command. The people of the towns bordering upon the bay, including the fishermen almost to a man, are taking a great interest in the protection of our bay fisheries, and of course watched the boat with considerable anxiety; and I have yet to learn of one who is not pleased with the work performed with the boat. I would recommend the boat be put in the bay another season by the middle of May, and kept in commission until October, as that is the time the porgies enter and leave the bay.

The town of Fairhaven, at their last annual town meeting, voted to instruct their selectmen not to grant any licenses for the setting of fish pounds, weirs or fykes, within the town waters. I understand the town of Mattapoisett will take the same action next year; and, if the law allowing the setting of gill nets within the waters of Fairhaven can be repealed this winter, I think great results will be obtained. The sawdust bill of last winter is beginning to be felt in this vicinity, one house having lately been erected upon the bank of the Sippican River, a tributary of the Weweantit; and I am confident, if the river can be kept free of sawdust, it can within a very few years be brought back to its old-time reputation of being one of the finest trout streams in the State.

Very respectfully submitted,

JOHN W. DELANO.

[D.]

BRADFORD, Oct. 3, 1890.

To the Commissioners on Inland Fisheries and Game.

GENTLEMEN: — I respectfully submit the following report, showing the full details of the work of hatching shad at North Andover for the season of 1890, the hatchery being opened June 9, and closed June 28.

Number of shad taken,	62
Number returned to river alive,	34
Number given away,	28
Number of males,	38
Number of females,	24
Number of salmon taken,	15
Number returned to river alive,	15
Estimated amount of spawn taken,	190,000
Estimated number of fish hatched,	170,000

Of this number, 70,000 were put into the river above the dam at Lawrence; the balance were turned in at North Andover.

1890.	Shad taken.	Males.	Females.	Temperature of Water at 7 P.M.	Temperature of Air at 7 P.M.	Time of Drawing Seine.	Fish per Sweep.
				Degs.	Degs.	P.M.	
June 9,	–	–	–	67	68	8,	–
10,	–	–	–	68	70	8,	–
11,	3	2	1	70	70	8, 9,	1, 2
12,	8	6	2	68	54	8, 9,	3, 5
13,	6	4	2	62	52	8, 9,	4, 2
14,	3	2	1	62	48	8, 9,	2, 1
16,	Water too high to fish.						
17,	1	–	1	67	59	8, 9,	– 1
18,	1	–	1	70	70	8, 9, 10,	1, – –
19,	7	4	3	72	68	9, 10,	3, 4
20,	2	2	–	72	60	8, 9,	2, –
21,	8	5	3	73	58	8, 9,	7, 1
23,	4	3	1	73	63	8, 10,	1, 3
24,	7	4	3	74	70	8, 9,	4, 3
25,	3	2	1	76	70	8, 9,	– 3
26,	3	2	1	76	68	8, 9,	1, 2
27,	2	–	2	75	62	9, 10,	1, 1
28,	4	2	2	74	56	8, 9, 10,	2, 2, –

The above table shows the number of shad taken, the proportion of males to females, temperature of water and air at 7 P.M., the time of drawing the seine, and the number of fish taken at each sweep.

The run of shad in the Merrimac this year was extremely small. I am more than ever inclined to believe that the yearly decline of the shad fisheries of the Merrimac is directly traceable to the destroying of the young fish by the long-continued use of so many fine-mesh seines at the mouth of the river. It requires no argument to convince any reasonable person that any method of fishing which destroys the young fish must certainly result in diminishing the number of mature fish to be found in our rivers. The practice of catching small fish for bait at the mouth of the Merrimac has been pursued to such an extent as to have ruined the shad fisheries on this stream, and the alewife fishery is destined to meet a similar fate. It has taken a long term of years to bring about this result. The process has been slow, but sure in its destructiveness, and the end of shad-catching as a profitable business has been reached; should the attempt to restock the stream be further continued, with any hope of success, it will be necessary to close the river to all seine fishing after June 1, for a period of ninety days. During the present season, although continually warned, some of the fishermen have persisted in using nets of illegal construction whenever an opportunity presented. As late as August 14 shad were taken by the use of the large seine managed by Mr. Thurlow, and sold to Capt. Charles White, commanding the "Alice S. Hawk" of Gloucester. No complaint has been entered against the parties for violating the law, as we had hoped it would be possible to induce the fishermen to observe the law without taking them before the court. Our efforts in this direction, however, have been a failure, and resulted in abuse from those of the more lawless class.

Respectfully yours,

B. P. CHADWICK.

BRADFORD, Nov. 20, 1890.

To the Commissioners on Inland Fisheries and Game.

GENTLEMEN: — As a deputy fish and game commissioner, I submit the following report.

During the present year there has been a marked improvement in our markets in respect to the sale of undersized lobsters. The retail dealers assure me that the enforcement of the law has been

the means of furnishing them with a more saleable class of lobsters, and very few if any of our dealers care to handle what are known to the trade as small lobsters. The sale of small lobsters is now wholly confined to those who catch them; and not more than ten per cent. of the catchers retain small ones, as they have learned that it is to their disadvantage to destroy their own business by forcing small, inferior lobsters upon the market. The business of peddling small lobsters on the streets in our large cities has nearly ceased, much to the gratification of honest dealers, who lease a building and pay rent for their business. I have had occasion to make only two complaints this season: Geo. S. Seeley, of Beverly, who was fined $115 and costs; J. P. Smith, of Worcester, who plead guilty, the case being placed on file on payment of costs.

The law of 1890, in reference to the mutilation of live lobsters, has not accomplished the desired object, for the reason that there seems to be a difficulty in so framing a law of this nature as not to interfere with the rights of honest, well-disposed dealers, and to avoid the interrupting of those rights. The construction of the statute at present is such as to render its execution difficult. If it is injurious to the lobster industry to allow the catcher to break the tails from the small lobsters while alive, the person who furnishes a market for such illegal product should be held equally responsible. To avoid the law, nearly ten per cent. of the catch enters our markets in a mutilated form. To effectually stop the catcher from violating the law, close the market for his illegal product, and the inducement to violate the law is removed.

For violation of game laws: offering partridges for sale in the close season, Pike & Co. of Lowell fined $20 and costs; Geo. C. Webster of Lawrence plead guilty, case placed on file on payment of costs; Wm. Henderson of Haverhill plead guilty, case placed on file on payment of costs. E. F. Gould of Middleton, setting snares, discharged. The taking of game birds with snares, and rabbits by the use of ferrets, is practised in nearly every county in the State. The advance in price at which game is selling in our markets tends to increase the number of those who resort to illegal methods of taking such. Many complaints have reached me this season, and I have given the subject such an investigation as time would permit. Eben F. Gould of Middleton was caught in the act of setting snares, but escaped conviction, the court ruling that the meaning of the statute was indefinite. I was forced to admit that there was a large opportunity for such a decision, and would suggest that section 6 of the game laws, in relation to snaring and the use of a ferret, be amended so that its execution may be

more readily carried into effect. Birds and animals that have been illegally taken should be made subject to seizure, and the possession of such should be made an offence.

There are many private parties in numerous sections of the State, as well as the Fish and Game Protective Association, who, at considerable expense, are engaged in the business of restocking our streams and forests with fish and game, many of them new and desirable species in this section of the country; and it certainly would seem to be consistent on the part of the Commonwealth to render such legislative assistance as may tend to hasten the desired object.

Respectfully yours,

B. P. Chadwick,
Deputy Commissioner Fish and Game.

[E.]

Northampton, Mass., Oct. 22, 1890.

To the Honorable Board of Massachusetts Commissioners on Inland Fisheries and Game.

Gentlemen: — In compliance with your request for a report of the work accomplished by the Hampshire Trout-breeding Association during the past season, we submit the following.

Dec. 25, 1889, we received 25,000 brook-trout eggs, kindly sent us by Hon. Marshall McDonald from the station at Northville, Mich.; and in January, 1890, the 35,000 presented by your honorable Board. These eggs were placed on thirty trays of the standard size, supplied with water brought 140 feet in three-quarter inch iron pipe, discharging into a small tank across the head of the main tanks. Before passing over the eggs, the water was filtered through six thicknesses of fine hair-cloth and flannel, these being frequently removed and cleaned. The water supply was taken from a well made of chestnut plank, which was sunk beside the brook, and over which the brook was conducted by an artificial canal.

Our brook is constant in quantity, unaffected by season, and rises in numerous springs. When we located the hatchery upon this stream, no trouble from silt was anticipated; but we did experience great difficulty with it last winter. This difficulty can be overcome by taking the water supply from some springs 1,075 feet from the hatchery. This we propose to do this fall, if we can obtain the necessary financial aid. The estimated cost of piping is about three hundred dollars.

In spite of the trouble with the water, and its being our first experience in the hatchery, we succeeded in hatching about 98 per cent. of the spawn; and, of those hatched, about 4 per cent. were lost.

About the middle of April the fry were distributed in the following streams: —

Running Gutter Brook, Hatfield, about	5,000
Broad Brook, Hatfield, about	5,000
Hart's Brook, Hadley, about	3,000
Bradford Brook, Williamsburg, about	5,000
Joe Wright Brook, Williamsburg, about	5,000
Mukins Brook, Williamsburg, about	5,000
Unknornonk Brook, Williamsburg, about	5,000
Potash Brook, Williamsburg, about	4,000
Sawmill Brook, Northampton, about	10,000
Beaver Brook, Haydenville, about	3,000
A branch of the Dead Branch of the town of Chesterfield,	5,000

Not one of these brooks is posted.

Regarding the extension of the lease, the owner of the land has been consulted, and says we can have a renewal for a term of five years after the expiration of our present lease in November, 1893; that is, we can control the land upon which the hatchery is located until the fall of 1898.

Respectfully submitted,

Dana Pearson,
Secretary.

[F.]

COMMONWEALTH *v.* ARTHUR MANCHESTER.

Field, C. J. The defendant was complained of for taking fish by the use of a purse seine in the waters of Buzzard's Bay within the jurisdiction of this Commonwealth. It appears by the report that the point in Buzzard's Bay where the seine was used "was within that part of Buzzard's Bay which the Harbor and Land Commissioners, acting under the provisions of section 2 of chapter 196 of the Acts of the year 1881, had, so far as they were capable of doing so, assigned to and made a part of the town of Falmouth"; that the distance between the headlands at the mouth of Buzzard's Bay is "more than one and less than two marine leagues;" and that "the distance across said bay at the point where the acts of the defendant were done is more than two marine leagues, and the opposite points are in different counties." The place "was about, and not exceeding, one mile and a quarter from a point on the shore midway from the north line of" the town of Falmouth "to the south line" of said town. Buzzard's Bay lies wholly within the territory of Massachusetts, having Barnstable County on the one side and the counties of Bristol and Plymouth on the other. The defendant offered evidence that he was fishing for menhaden only with a purse seine, and that the bottom of the sea "was not encroached upon or disturbed"; "that it was impossible to discern objects across from one headland to the other at the mouth of Buzzard's Bay"; that he was a citizen of the State of Rhode Island, and that the vessel upon which he was employed and in connection with which he was using the seine belonged to Newport, in that State, and had been "duly enrolled and licensed at that port under the laws of the United States for carrying on the menhaden fishery."

It was contended at the trial, among other things, that St. 1886, chapter 192, under which the complaint was made, had not repealed St. 1865, chapter 212; but this has not been argued in this court. It is plain that St. 1886, chapter 192, was intended to regulate the whole subject of using nets or seines for taking fish in the waters of Buzzard's Bay, and that by implication it repealed St. 1865, chapter 212, so far as that statute related to the taking of menhaden by the use of a purse seine in the waters

of that bay. The principal question argued here is whether the place where the acts of the defendant were done was within the jurisdiction of the Commonwealth of Massachusetts.

The Pub. Sts., chapter 1, sections 1, 2, are as follows: "SECTION 1. The territorial limits of this Commonwealth extend one marine league from its sea-shore at low-water mark. When an inlet or arm of the sea does not exceed two marine leagues in width between its headlands, a straight line from one headland to the other is equivalent to the shore line. SECT. 2. The sovereignty and jurisdiction of the Commonwealth extend to all places within the boundaries thereof, subject to the right of concurrent jurisdiction granted over places ceded to the United States." The Pub. Sts., chapter 22, section 1, contain the following provision: "The boundaries of counties bordering on the sea shall extend to the line of the Commonwealth, as defined in section one of chapter one." Section 11, of the same chapter, is as follows: "The jurisdiction of counties separated by waters within the jurisdiction of the Commonwealth shall be concurrent upon and over such waters." The St. of 1881, ch. 196, which has been referred to, is as follows: "SECTION 1. The boundaries of cities and towns bordering upon the sea shall extend to the line of the Commonwealth, as the same is defined in section one of chapter one of the General Statutes. SECT. 2. The harbor and land commissioners shall locate and define the courses of the boundary lines between adjacent cities and towns bordering upon the sea, and upon arms of the sea, from high-water mark outward to the line of the Commonwealth, as defined in said section one, so that the same shall conform as nearly as may be to the course of the boundary lines between said adjacent cities and towns on the land; and they shall file a report of their doings, with suitable plans and exhibits showing the boundary lines of any town by them located and defined, in the registry of deeds, in which deeds of real estate situated in such town are required to be recorded, and also in the office of the Secretary of the Commonwealth." Section 1 of chapter 1 of the General Statutes contains the provisions which have been before recited as now contained in Pub. Sts., chapter 1, section 1, and chapter 22, sections 1 and 11. These provisions were first enacted by St. 1859, chapter 289. The R. S., chapter 1, section 1, were as follows: "SECTION 1. The sovereignty and jurisdiction of the Commonwealth extend to all places within the boundaries thereof; subject only to such rights of concurrent jurisdiction as have been or may be granted over any places ceded by the Commonwealth to the United States." The boundaries of the Commonwealth on the sea were first exactly

defined by St. 1859, chapter 289. The boundaries of the territory granted by the charter of the colony of New Plymouth, or of the territory included in the province charter, need not to be particularly set forth. Buzzard's Bay was undoubtedly within the territory described in those charters.

By the definitive treaty of peace between the United States of America and Great Britain "His Britannic Majesty acknowledges the said United States, viz., New Hampshire, Massachusetts Bay, to be free, sovereign and independent States; that he treats with them as such; and for himself, his heirs and successors, relinquishes all claims to the government, propriety and territorial rights of the same and every part thereof." 8 U. S. Sts. at Large, 81. If Massachusetts had become an independent nation, there can be no doubt, we think, that her boundaries on the sea, as she has defined them by the statutes, would be acknowledged by all foreign nations, and that her right to control the fisheries within these boundaries would be conceded. It has often been a matter of controversy how far a nation has a right to control the fisheries on its sea-coast and in the bays and arms of the sea within its territory; but the limits of this right have never been placed at less than a marine league from the coast on the open sea; and bays wholly within the territory of a nation the headlands of which are not more than six geographical miles apart have always been regarded as a part of the territory of the nation in which they lie. More extensive rights in these respects have been and are now claimed by some nations; but, so far as we are aware, all nations concede to each other the right to control the fisheries within a marine league of the coast and in bays within the territory, the headlands of which are not more than two marine leagues apart.

In the proceedings of the Halifax Commission under the treaty of Washington of May 8, 1871, where it was for the interest of the United States to claim against Great Britain, independently of treaties, as extensive rights of fishing as could be maintained, the claim was stated in the answer on behalf of the United States as follows: "It becomes necessary at the outset to inquire what rights American fishermen and those of other nations possess, independently of treaty, upon the ground that the sea is the common property of all mankind. For the purposes of fishing, the territorial waters of every country along the sea-coast extend three miles from low-water mark; and beyond is the open ocean, free to all. In the case of bays and gulfs such only are territorial waters as do not exceed six miles in width at the mouth, upon a straight line measured from headland to headland. All larger bodies of

water connected with the open sea form a part of it. And, whenever the mouth of a bay or gulf exceeds the maximum width of six miles at its mouth, and so loses the character of territorial or inland waters, the jurisdictional or proprietary line for the purpose of excluding foreigners from fishing is measured along the shore of the bay according to its sinuosities, and the limit of exclusion is three miles from low-water mark." (House of Representatives, 45th Congress, 2d session, Ex. Doc. No. 89, p. 120.) The government of Canada had been instructed by the government of Great Britain, on April 12, 1866, "that American fishermen should not be interfered with either by notice or otherwise, unless found within three miles of the shore or within three miles of a line drawn across the mouth of a bay or creek which is less than ten geographical miles in width, in conformity with the arrangement made with France in 1839"; but afterwards the British government issued instructions "that the United States fishermen will not be for the present prevented from fishing except within three miles of the land, or in bays which are less than six miles broad at the mouth" (*ibid.*, pp. 120, 121). It is true that Mr. Dana, of counsel for the United States, contended in argument with reference to the right to fish in the open sea, "that the deep-sea fisherman, pursuing the free-swimming fish of the ocean with his net or his leaded line, not touching shores or troubling the bottom of the sea, is no trespasser, though he approach within three miles of a coast, by any established, recognized law of all nations" (*ibid* p. 1654,). This contention, however, did not touch the right to fish in bays or arms of the sea, and it was not the claim actually made by the United States before the commission. This is stated in the answer and in the brief of the United States. The answer does not allude to any such position as that taken by Mr. Dana in his closing argument, but in the brief it is said: "Many authorities maintain that, whenever under the law of nations any part of the sea is free for navigation, it is likewise free for fishing for those who sail over its surface. But, without insisting upon this, the inevitable conclusion is that, prior to the treaty of Washington, the fishermen of the United States as well as those of all other nations could rightfully fish in the open sea more than three miles from the coast, and could also fish at the same distance from the shore at all bays more than six miles in width, measured in a straight line from headland to headland" (*ibid.*, p. 166).

The counsel for the defendant in the case at bar place much reliance upon the decision in *The Queen v. Keyn*, 2 Ex. D. 63. In that case the defendant was the officer in command of the

Franconia, a German steamer, which at a point "one mile and nine-tenths of a mile S.S.E. from Dover pier-head, and within two and a half miles from Dover beach," in the English channel, ran down and sunk the British steamer Strathclyde, and one of the Strathclyde's passengers was drowned. The defendant was indicted in the Central Criminal Court for manslaughter. The question was, whether the offence was committed within the jurisdiction of the admiralty, the Central Criminal Court having jurisdiction to hear and determine any offence alleged "to have been committed within the jurisdiction of the Admiralty of England, on the high seas or other places" (p. 100). A majority of the court held that the offence was committed on the German steamer, and not on the British steamer; and that, under the laws then existing, there was no admiralty jurisdiction over an offence committed by a foreigner on a foreign ship on the open sea, whether within or without a marine league of the shore of England. In consequence of this decision, Parliament passed the St. of 41 and 42 Vict. chapter 73. By that act it was declared that, "for the purpose of any offence declared by this Act to be within the jurisdiction of the Admiral, any part of the open sea within one marine league of the coast, measured from low-water mark, shall be deemed to be open sea within the territorial waters of Her Majesty's dominions." It is obvious that by this decision the court did not attempt to define the extent of the dominion of Great Britain over the open sea adjacent to the coast, but only the extent of the existing admiralty jurisdiction over offences committed on the open sea. The courts of England would undoubtedly enforce any act of Parliament conferring upon them jurisdiction over offences committed anywhere. It is equally obvious that the decision has nothing to do with the right of control over fisheries in the open sea, or in bays or arms of the sea. The case contains a great deal of learning upon the respective limits of the common-law jurisdiction and of the admiralty jurisdiction in England over crimes, and upon the boundaries of counties in England under the laws then existing. These distinctions are immaterial in the case at bar, except with reference to the contention that the place where the acts complained of were done was within the admiralty jurisdiction of the courts of the United States. The boundaries of counties in Massachusetts may be defined by statute, and they may be made to extend over all the territory of Massachusetts, whether it be sea or land; and, if Massachusetts has a right to control the fisheries in Buzzard's Bay, offences in violation of the regulations which the State may establish can be tried in any of its courts

upon which it may confer jurisdiction. It is to be noticed, however, that, in all the citations contained in the different opinions given in *The Queen v. Keyn*, wherever the question of the right of fishery is referred to, it is conceded that the control to the extent at least of a marine league belongs to the nation on whose coasts the fisheries are. The argument of Mr. Benjamin, of counsel for the defendant, is not contained in the report of the case; but, from the statement of Mr. Justice Lindley, found on p. 90 of the report, it seems that he admitted that the dominion of a State over the seas adjoining its shore existed for the purpose of protecting "its coasts from the effects of hostilities between other nations which may be at war, the protection of its revenue and of its fisheries, and the preservation of order by its police."

In the *Direct United States Cable Co.* v. *Anglo-American Telegraph Co.*, 2 App. Cas. 394, it became necessary for the Privy Council to determine whether a point in Conception Bay, Newfoundland, more than three miles from the shore, was a part of the territory of Newfoundland, and within the jurisdiction of its Legislature. The average width of the bay "is about fifteen miles," and the distance between the headlands is "rather more than twenty miles." Lord Blackburn, in delivering the opinion, says at 416: "The question raised in this case, and to which their Lordships confine their judgment, is as to the territorial dominion over a bay of configuration and dimensions such as those of Conception Bay above described. The few English common law authorities on this point relate to the question as to where the boundary of counties ends, and the exclusive jurisdiction at common law of the court of admiralty begins, which is not precisely the same question as that under consideration; but this much is obvious, that when it is decided that any bay or estuary of any particular dimensions is or may be a part of an English county, and so completely within the realm of England, it is decided that a similar bay or estuary is or may be part of the territorial dominions of the country possessing the adjacent shore." He cites the well-known language of Lord Hale: "That arm or branch of the sea which lies within the *fauces terræ*, where a man may reasonably discerne between shore is, or at least may be, within the body of a county, and, therefore, within the jurisdiction of the sheriff or coroner," and comments upon its indefiniteness; and then cites the case of *Regina v. Cunningham*, Bell's Cr. C. 72, 86, and says that in this case "this much was determined; that a place in the sea, out of any river, and where the sea was more than ten miles wide was within the county of Glamorgan, and consequently, in every sense of the words within the territory of

Great Britain. Apparently he was of opinion that by most of the text-writers on international law Conception Bay would be excluded from the territory of Newfoundland, and that the part of the Bristol channel, which in *Regina* v. *Cunningham* was decided to be in the county of Glamorgan, would be excluded from the territory of Great Britain; but he decides that Conception Bay is a part of the territory of Newfoundland, because the British government has exercised exclusive dominion over it, with the acquiescence of other nations, and it has been declared by act of Parliament "to be part of the British territory, and part of the country made subject to the Legislature of Newfoundland."

We regard it as established that, as between nations, the minimum limit of the territorial jurisdiction of a nation over tide-waters is a marine league from its coast; and that bays wholly within its territory, not exceeding two marine leagues in width at the mouth, are within this limit; and that included in this territorial jurisdiction is the right of control over fisheries, whether the fish be migratory, free-swimming fish, or free-moving fish like lobsters, or fish attached to or embedded in the soil. The open sea within this limit is of course subject to the common right of navigation; and all governments, for the purpose of self-protection in time of war or for the prevention of frauds on their revenue, exercise an authority beyond this limit. We have no doubt that the British Crown will claim the ownership of the soil in the bays and in the open sea adjacent to the coast of Great Britain to at least this extent whenever there is any occasion to determine the ownership. The authorities are collected in Gould on Waters, part 1, cc. 1, 2, and notes. (See also *Neill* v. *Duke of Devonshire*, 8 App. Cas. 135; *Gammell* v. *Commissioners of Woods and Forests*, 3 Macq. 419; *Mowat* v. *McFee*, 5 Sup. Ct. of Canada, 66; *The Queen* v. *Cubitt*, 22 Q. B. D. 622; St. 46 and 47 Vict. c. 22.)

But it is argued that, if the fisheries of Buzzard's Bay are within the control of either the State of Massachusetts or of the United States, this control, by the Constitution of the United States, is exclusively with the United States. The question is, therefore, whether the statutes of Massachusetts which have been cited are repugnant to the Constitution and laws of the United States. There is no belt of land under the sea adjacent to the coast which is the property of the United States and not the property of the States. It is conceded that the case of *Dunham* v. *Lamphere*, 3 Gray, 268, is decisive of the case at bar, if that case was correctly decided. That case was decided before the passage of St. 1859, chapter 289; and the place where the acts complained of were done was not within a bay, but in the sea within one mile of

Gravel Island. Shaw, C. J., says, in the opinion: "Being within a mile of the shore puts it beyond doubt that it was within the territorial limits of the State, although there might in many cases be some difficulty in ascertaining precisely where that limit is. We suppose the rule to be, that these limits extend a marine league, or three geographical miles, from the shore; and in ascertaining the line of shore this limit does not follow each narrow inlet or arm of the sea; but when the inlet is so narrow that persons and objects can be discerned across it by the naked eye, the line of territorial jurisdiction stretches across from one headland to the other of such inlet" (pp. 269, 270). He then proceeds to discuss the question "Whether the right of property and of dominion and government over the sea-coast fisheries, and all fisheries in tide-waters and arms of the sea, belong properly to the general government or remain with the State government"; and he concludes that "in the distribution of powers between the general and the State governments," "the right to the fisheries and the power to regulate the use of the fisheries on the coasts and in the tide-waters of the State" were left by the Constitution of the United States with the States, "subject only to such powers as Congress may justly exercise in the regulation of commerce, foreign and domestic"; and he says "that the exercise of both of these are not inconsistent, and therefore not in conflict with each other, was also settled by the Supreme Court of the United States, in the case of *Wilson* v. *Black Bird Creek Marsh Co.*, 2 Pet. 245."

In *Dunham* v. *Lamphere*, *ubi supra*, the defendant was a citizen of the State of Rhode Island, and the owner and master of a fishing vessel which had been duly licensed as a fishing vessel pursuant to the laws of the United States; but it is said that this license did not affect the question. We are asked to reconsider this decision mainly on the ground that the admiralty and maritime jurisdiction of the courts of the United States was not considered in the opinion. It has, indeed, been suggested that the recent decisions of the Supreme Court of the United States upon the power of Congress "to regulate commerce with foreign nations, and among the several States, and with the Indian tribes" (Const. U. S., Art. I, § 8), require that this decision be reconsidered; but no recent decisions of that court have been cited which relate to the regulation and control of the fisheries within the territorial tide-waters of a State, and the decisions of that court which relate to this subject are considered hereafter, and they do not appear to be in conflict with the decision in *Dunham* v. *Lamphere*. So far as we know it has never been decided anywhere, that the regulation of the fisheries within the territorial limits of a State is a regulation

of commerce; the decisions are that the control of the fisheries is not included in the grant of power to Congress to regulate commerce (Gould on Waters, § 38). In all treaties and international relations the coast fisheries are regarded as a distinct subject from that of commerce. The argument addressed to us is that by the Constitution of the United States the judicial power of the United States extends "to all cases of admiralty and maritime jurisdiction" (Const. U. S., Art. III, § 2); that this power is exclusive; that the case at bar is within this jurisdiction, and that therefore the courts of Massachusetts have no jurisdiction over it. It must, we think, be considered as settled that, if land on the coast be reclaimed from the sea, or if piers or wharves be extended into the sea, such land and structures are a part of the territory of the State whose shores they adjoin. *Pollard* v. *Hagan*, 3 How. 212. *Weber* v. *Harbor Commissioners*, 18 Wall. 57. *Commonwealth* v. *Roxbury*, 9 Gray, 451. *Commonwealth* v. *Alger*, 7 Cush. 53. *Boston* v. *Richardson*, 105 Mass. 351. *Galveston* v. *Menard*, 23 Texas, 394. *Barney* v. *Keokuk*, 94 U. S. 324.

In *McCready* v. *Virginia*, 94 U. S. 391, it is said in the opinion that "the precise question to be determined, in this case, is whether the State of Virginia can prohibit the citizens of other States from planting oysters in Ware River, a stream in that State, where the tide ebbs and flows, when its own citizens have that privilege. The principle has long been settled in this court, that each State owns the beds of all tide-waters within its jurisdiction, unless they have been granted away. *Pollard* v. *Hagan*, 3 How. 212; *Smith* v. *Maryland*, 18 How. 74; *Mumford* v. *Wardwell*, 6 Wall. 423, 436; *Weber* v. *Harbor Commissioners*, 18 Wall. 57, 66. In like manner, the States own the tide-waters themselves, and the fish in them, so far as they are capable of ownership while running. For this purpose the State represents its people, and the ownership is that of the people in their united sovereignty. *Martin* v. *Waddell*, 16 Pet. 367, 410. The title thus held is subject to the paramount right of navigation, the regulation of which, in respect to foreign and interstate commerce, has been granted to the United States. There has been, however, no such grant of power over the fisheries. These remain under the exclusive control of the State, which has consequently the right, in its discretion, to appropriate its tide-waters and their beds to be used by its people as a common for taking and cultivating fish, so far as it may be done without obstructing navigation. Such an appropriation is in effect nothing more than a regulation of the use by the people of their common property. The right which the people of the State thus acquire comes not from their citizenship alone, but from their

citizenship and property combined. It is, in fact, a property right, and not a mere privilege or immunity of citizenship."

In *Smith* v. *Maryland*, 18 How. 71, 74, every question was discussed which arises in the case at bar, except the question whether the place where the acts of the present defendant were done was within the territory of Massachusetts. In that case the plaintiff in error was a citizen of Pennsylvania, and owner of a sloop licensed to be employed in the coasting trade and fisheries, which was seized by the sheriff of Anne Arundel County in Maryland, while engaged in dredging for oysters in Chesapeake Bay, in violation of a statute of Maryland enacted for the purpose of preventing the destruction of oysters in the waters of that State. The questions presented and argued were whether that statute was repugnant to provisions of the Constitution of the United States, which grant to Congress the power to regulate commerce, or to those which declare that the judicial power of the United States shall extend to all cases of admiralty and maritime jurisdiction, or which declare that the citizens of each State "shall be entitled to all privileges and immunities of citizens in the several States" (Const. U. S., Art. IV., § 2). Mr. Justice Curtis, in delivering the opinion, says: "Whatever soil below low-water mark is the subject of exclusive propriety and ownership, belongs to the State on whose maritime border and within whose territory it lies, subject to any lawful grants of that soil by the State, or the sovereign power which governed its territory before the declaration of independence. *Pollard* v. *Hagan*, 3 How. 212; *Martin* v. *Waddell*, 16 Pet. 367; *Den* v. *Jersey Co.*, 15 Howard, 426. But this soil is held by the State, not only subject to, but in some sense in trust for, the enjoyment of certain public rights, among which is the common liberty of taking fish, — as well shell-fish as floating fish." He also says that the statute of Maryland does "not touch the subject of the common liberty of taking oysters, save for the purpose of guarding it from injury, to whomsoever it may belong, and by whomsoever it may be enjoyed. Whether this liberty belongs exclusively to the citizens of the State of Maryland, or may lawfully be enjoyed in common by all citizens of the United States; whether this public use may be restricted by the State to its own citizens, or a part of them, or by force of the Constitution of the United States must remain common to all citizens of the United States; whether the national government, by a treaty or act of Congress, can grant to foreigners the right to participate therein; or what, in general, are the limits of the trust upon which the State holds this soil, or its power to define and control that trust, are matters wholly without the scope of this case,

and upon which we give no opinion." Upon the question of the admiralty jurisdiction he says: "But we consider it to have been settled by this court, in *United States* v. *Bevans*, 3 Wheat. 336, that this clause in the Constitution did not affect the jurisdiction, nor the legislative power of the States, over so much of their territory as lies below high-water mark, save that they parted with the power so to legislate as to conflict with the admiralty jurisdiction or laws of the United States. As this law conflicts neither with the admiralty jurisdiction of any court of the United States conferred by Congress, nor with any law of Congress whatever, we are of opinion it is not repugnant to this clause of the Constitution." He also held that it was not repugnant to the clause of the Constitution which conferred upon Congress the power to regulate commerce, and that the enrolment and license of the vessel conferred upon the plaintiff in error no right to violate the statute of Maryland. It is said, in the opinion, that "no question was made in the court below whether the place in question be within the territory of the State. The law is, in terms, limited to the waters of the State." The question, therefore, did not arise, "whether a voyage of a vessel, licensed and enrolled for the coasting trade, had been interrupted by force of a law of a State while on the high seas, and out of the territorial jurisdiction of such State." The dimensions of Chesapeake Bay do not appear in the report of the case, but it has been said that this bay is "twelve miles across at the ocean." 1 Bishop Crim. Law, section 75. It is a bay considerably larger than Buzzard's Bay, and is not wholly within the State of Maryland, although, at the point where Anne Arundel County bounds upon it, it is wholly in that State. *Haney* v. *Compton*, 7 Vroom, 507. *Corfield* v. *Coryell*, 4 Wash. C. C. 371. *Weston* v. *Sampson*, 8 Cush. 347. *Mahler* v. *The Norwich & New York Transportation Co.*, 35 N. Y. 352. *United States* v. *Smiley*, 6 Saw. C. Ct. 640.

The argument from the grant of judicial power to the United States in all cases of admiralty and maritime jurisdiction proceeds upon the theory that the jurisdiction thus granted is the jurisdiction as to subject matter and place, which courts of admiralty exercised in England when the Constitution was adopted; and that this is an exclusive jurisdiction, civil and criminal, which is fixed, and cannot be changed by legislation. But in civil causes the jurisdiction both as to subject matter and place is not exactly that of the Courts of Admiralty of England at any time, and this jurisdiction can within certain limits be changed by Congress; and, under the existing laws, personal suits on maritime contracts or for maritime torts can be maintained in the State courts, and the courts

of the United States, merely by virtue of this grant of judicial power, have no criminal jurisdiction whatever. The criminal jurisdiction of the courts of the United States is wholly derived from the statutes of the United States; and these statutes, so far as they have been passed under the grant of admiralty and maritime jurisdiction for the punishment of the offences committed on the high seas, or in bays and arms of the sea, have usually been confined to offences committed "out of the jurisdiction of any particular State." *Butler* v. *Boston & Savannah Steamship Co.*, 130 U. S. 527. *The Belfast*, 7 Wall. 624. *The Eagle*, 8 Wall. 15. *Leon* v. *Galceran*, 11 Wall. 185. *Steamboat Co.* v. *Chase*, 16 Wall. 522; S. C. 9 R. I. 419. *Schoonmaker* v. *Gilmore*, 102 U. S. 118. *Insurance Co.* v. *Dunham*, 11 Wall. 1. *Ex parte Byers*, 32 Fed. Rep. 404.

In each of the cases of the *United States* v. *Bevans*, 3 Wheat. 336, and of the *Commonwealth* v. *Peters*, 12 Met. 387, the place where the offence was committed was in Boston harbor, and it was held to be within the jurisdiction of Massachusetts, according to the meaning of the statutes of the United States which punished certain offences committed upon the high seas or in any river, haven, basin or bay "out of the jurisdiction of any particular State." The test applied in *Commonwealth* v. *Peters*, which was decided in the year 1847, was that the place was within a bay "not so wide but that persons and objects on the one side can be discerned by the naked eye by persons on the opposite side," and was therefore within the body of a county. In *United States* v. *Bevans*, Marshall, C. J., said: "The jurisdiction of a State is coextensive with its territory; coextensive with its legislative power. The place described is unquestionably within the original territory of Massachusetts. It is, then, within the jurisdiction of Massachusetts, unless that jurisdiction has been ceded to the United States."

There are no statutes of the United States which, as we construe them, purport to regulate the menhaden fisheries on the coast or within the bays of Massachusetts. The rights granted to British subjects by the treaties of June 5, 1854, and May 8, 1871, to take fish upon the shores of the United States, had expired before the statute of Massachusetts (St. 1886, c. 192) was passed which the defendant is charged with violating. If the place where the offence charged in this case was committed is within the general jurisdiction of Massachusetts, then, according to the principles declared in *Smith* v. *Maryland*, the statute in question is not repugnant to the Constitution and laws of the United States. The contention is that the jurisdiction of a State as between it and the United States must be confined to the body of counties; and that counties must

be defined according to the customary English usage at the time of the adoption of the constitution of the United States; and that by this usage counties were bounded by the margin of the open sea; and that as to bays and arms of the sea extending into the land, only such or such parts were included in counties as were so narrow that objects could be distinctly seen from one shore to the other by the naked eye. We are unable to find any indication anywhere that the customary law of England in regard to the boundaries of counties was adopted by the Constitution of the United States as a measure to determine the territorial jurisdiction of the States. The extent of the territorial jurisdiction of Massachusetts over the sea adjacent to its coast is that of an independent nation, and, except so far as any right of control over this territory has been granted to the United States, the control remains with the State.

In *United States* v. *Bevans*, Marshall, C. J., in the opinion asks the following questions: "Can the cession of all cases of admiralty and maritime jurisdiction be construed into a cession of the waters on which those cases may arise?" "As the powers of the respective governments now stand, if two citizens of Massachusetts step into shallow water when the tide flows, and fight a duel, are they not within the jurisdiction, and punishable by the laws, of Massachusetts?" It would be a startling proposition that all persons who step into tide-water on the open coast of Massachusetts are, while they remain there, wholly beyond the jurisdiction of the State. The statutes of the United States define and punish but few offences on the high seas; and, unless other offences when committed in the sea near the coast can be punished by the States, there is a large immunity from punishment for acts which ought to be punishable as criminal. There are reasons, perhaps, why the States should not exercise in all respects the same authority over the open sea near the shore as over bays within their limits; and Congress or the courts of the United States might refuse to recognize the right of a State by statute to extend its territorial limits beyond what is generally recognized as the territorial limits of States by the law of nations. Within these limits we think a State can define its boundaries on the sea and the boundaries of its counties, and by this test the Commonwealth of Massachusetts can include Buzzard's Bay within the limits of its counties.

The statutes of Massachusetts, in regard to bays at least, make definite boundaries which before the passage of the statutes were somewhat indefinite; and, if it were necessary so to consider the statutes, they might well be taken to be a definition

of the distance which a person can see, although the origin and history of the statutes has no connection with the English law concerning the boundaries of counties. It is to be noticed that Rhode Island and some other States have passed similar statutes defining their boundaries. Pub. Sts. of Rhode Island, 1882, chapter 1, sections 1 and 2; chapter 3, section 6. Gould on Waters, section 16, and note. The waters of Buzzard's Bay are, of course, navigable waters of the United States, and the jurisdiction of Massachusetts over them is necessarily limited (*Commonwealth* v. *King*, 150 Mass. 221); but we have no occasion to consider the power of the United States to regulate or control either by treaty or legislation the fisheries in these waters, because there are no existing treaties or acts of Congress which seem to us to relate to the menhaden fisheries within such a bay. The statute of Massachusetts which the defendant is charged with violating is in terms confined to waters "within the jurisdiction of this Commonwealth;" and it was passed, we think, for the preservation of the fish, and it makes no discrimination in favor of citizens of Massachusetts and against citizens of other States.

If there be a liberty of fishing for swimming fish in the navigable waters of the United States, common to the inhabitants or the citizens of the United States, upon which we express no opinion, the statute may well be considered as an impartial and reasonable regulation of this liberty; and the subject is one which a State may well be permitted to regulate within its territory, in the absence of any regulation by the United States. The preservation of fish, even although they are not used as food for human beings, but as food for other fish which are so used, is for the common benefit, and we are of opinion that the statute is not repugnant to the Constitution and the laws of the United States. We see no error in the rulings at the trial, and there must be judgment on the verdict.

So ordered.

[G.]

LEGISLATION.

[Chap. 30.]

AN ACT TO AMEND AN ACT TO PROTECT THE FISHERIES IN THE TRIBUTARIES OF PLUM ISLAND BAY.

Be it enacted, etc., as follows:

Section two of chapter one hundred and five of the acts of the year eighteen hundred and eighty-seven is hereby amended so as to read as follows: — *Section 2.* The catching of smelts in the waters mentioned in section one between the fifteenth day of March and the first day of June is hereby prohibited, and whoever sells or offers or exposes for sale or has in his possession a smelt so taken in these waters within said season shall be subject to the same penalties as are provided in section fifty-seven of chapter ninety-one of the Public Statutes. [*Approved February 18, 1890.*

[Chap. 91.]

AN ACT TO REPEAL CERTAIN ACTS PROHIBITING THE SEINING OF FISH IN THE PONDS ON THE ISLAND OF NANTUCKET.

Be it enacted, etc., as follows:

Section 1. Chapter one hundred and eighty of the acts of the year eighteen hundred and seventy-five and chapter forty-nine of the acts of the year eighteen hundred and seventy-six, prohibiting the seining of fish in the ponds on the island of Nantucket, are hereby repealed.

Sect. 2. This act shall take effect upon its passage. [*Approved March 13, 1890.*

[Chap. 129.]

AN ACT TO PREVENT INJURY TO FISH IN BROOKS AND STREAMS BY SAWDUST.

Be it enacted, etc., as follows:

Section 1. When the board of commissioners on inland fisheries and game shall decide that the fish of any brook or stream in this Commonwealth are of sufficient value to warrant the prohibition or regulation of the discharge of sawdust from saw-mills into such brook or stream, and that the discharge thereof from any particular saw-mill materially injures such fish, they shall, by

written order to the owner or tenant of such saw-mill, prohibit or regulate the discharge of sawdust from such mill into such brook or stream. Such order may be revoked or modified by the board of commissioners on inland fisheries and game at any time.

Sect. 2. Any person so notified who shall discharge, or suffer or permit to be discharged from such saw-mill while under his control, any sawdust into any brook or stream contrary to the order of the board of commissioners on inland fisheries and game, shall be punished by a fine not exceeding twenty-five dollars. [*Approved March 28, 1890.*

[Chap. 193.]

AN ACT TO LIMIT THE TIME WITHIN WHICH TROUT, LANDLOCKED SALMON AND LAKE TROUT MAY BE TAKEN IN BERKSHIRE, FRANKLIN, HAMPSHIRE AND HAMPDEN COUNTIES.

Be it enacted, etc., as follows:

Section 1. Chapter one hundred and seventy-one of the acts of the year eighteen hundred and eighty-four is hereby amended by adding at the end of the first section the words: — except in the counties of Berkshire, Franklin, Hampshire and Hampden, where such time shall be between the first day of August and the first day of April, under a penalty of not less than ten and not more than twenty-five dollars for each and every violation hereof, — so that the section shall read as follows: — *Section 1.* The time within which any person is forbidden to take, sell, offer or expose for sale or to have in his possession a trout, landlocked salmon, or lake trout, by sections fifty-one and fifty-three of chapter ninety-one of the Public Statutes, shall be between the first day of September and the first day of April, except in the counties of Berkshire, Franklin, Hampshire and Hampden, where such time shall be between the first day of August and the first day of April, under a penalty of not less than ten and not more than twenty-five dollars for each and every violation hereof.

Sect. 2. Chapter two hundred and seventy-six of the acts of the year eighteen hundred and eighty-eight is hereby repealed.

Sect. 3. This act shall take effect upon its passage. [*Approved April 18, 1890.*

[Chap. 229.]

AN ACT TO PROHIBIT THE USE OF SET NETS AND GILL NETS WITHIN ONE-HALF MILE OF THE SHORES OF THE TOWN OF MATTAPOISETT.

Be it enacted, etc., as follows:

Section 1. Section four of chapter one hundred and ninety-two of the acts of the year eighteen hundred and eighty-six, as

amended by section one of chapter one hundred and ninety-seven of the acts of the year eighteen hundred and eighty-seven, is hereby further amended by striking out all after the word "Fairhaven", in the twelfth line of said section, so as to read as follows: — *Section 4.* Nothing contained in this act shall be construed to interfere with the corporate rights of any fishing company located on said bay, nor to in any way affect the fish weirs mentioned in section seventy of chapter ninety-one of the Public Statutes, nor to the use of nets or seines in lawful fisheries for shad or alewives in influent streams of said bay, nor to the use of set nets or gill nets in the waters of the town of Fairhaven within a line drawn from Cormorant rock south-westerly to the buoy on West island rips and from thence westerly in a straight course through the buoy on West island ledge to the town line of Fairhaven.

Sect. 2. This act shall take effect upon its passage. [*Approved April 26, 1890.*

[Chap. 231.]

An Act relative to fishing in unnavigable tidal streams.

Be it enacted, etc., as follows:

Section thirty-one of chapter ninety-one of the Public Statutes is hereby amended by striking out the words "The owner of an unnavigable tidal stream where the same empties into salt water, and", in the first and second lines, and inserting in place thereof the words: — The riparian proprietor on an unnavigable tidal stream, whether the waters of the same are enclosed or not, — and is hereby further amended by striking out the word "also", in the fourth line of said section, and inserting in place thereof the words: — a riparian proprietor at the mouth of such stream shall also have control of the fishing thereof, — and by adding after the word "premises", in the fourth line of said section, the words: — and opposite thereto to the middle of the stream, — so that said section shall read as follows: — *Section 31.* The riparian proprietor on an unnavigable tidal stream, whether the waters of the same are enclosed or not, in which fishes are lawfully cultivated or maintained, shall have the control of the fishery thereof within his own premises and opposite thereto to the middle of the stream, and a riparian proprietor at the mouth of such stream shall also have control of the fishing thereof beyond and around the mouth of the stream so far as the tide ebbs, provided it does not ebb more than eighty rods; and whoever fishes within these limits without permission of such owner shall forfeit not less than one dollar nor more than twenty dollars for the first offence, and not

less than five nor more than fifty dollars for any subsequent offence; and shall in addition forfeit any boat and apparatus used in such illegal fishing. [*Approved April 26, 1890.*

[Chap. 336.]

AN ACT TO FURTHER REGULATE THE TAKING OF FISH IN NORTH RIVER IN THE COUNTY OF PLYMOUTH.

Be it enacted, etc., as follows:

Section 1. Whoever sets or stretches any seine in North river in the county of Plymouth so as to obstruct the free passage of fish, except when lawfully fishing, or who shall take fish in violation of existing laws regulating the seining of fish in said river, shall be subject to the penalties specified in section six of chapter forty-four of the acts of the year eighteen hundred and eighty-one, and in addition thereto shall forfeit all seines, boats and apparatus used in connection with such use of seines.

Sect. 2. The preceding section or any existing law shall not be construed to prohibit the use of a hoop net for fishing through ice, the meshes of which shall not be less than two inches in length and the hoop of which shall not be more than five feet in diameter.

Sect. 3. Whoever uses any torch, lamp or other artificial light to aid in the spearing of eels, or locating fish in said river or in its tributaries, shall for each offence be subject to a fine of not less than five nor more than twenty dollars.

Sect. 4. Any seine set or placed in said river in violation of law is declared to be a common nuisance, and it shall be lawful for any person to take a seine so found and hold it for the period of forty-eight hours, so that the same may if need be seized and libelled in due course of law.

Sect. 5. The selectmen of the towns of Pembroke, Marshfield, Norwell and Scituate shall each appoint annually one or more persons to be fish wardens who shall be sworn by the town clerk of their respective towns to the faithful performance of their duties and whose duty it shall be to enforce all laws in regard to fishing and the protection of fish in said North river, and to prosecute violations thereof.

Sect. 6. All fines imposed, and the proceeds of sales of all seines, boats and apparatus forfeited by virtue of this act, shall be for the benefit of the town or towns whose officer or officers make complaint and prosecute by authority hereof. [*Approved May 23, 1890.*

[Chap. 390.]

AN ACT PROVIDING FOR THE BETTER MAINTENANCE AND ENFORCEMENT OF THE FISH AND GAME LAWS AND THE DISTRIBUTION OF FISH.

Be it enacted, etc., as follows:

Section 1. There shall be allowed and paid out of the treasury of the Commonwealth a sum not exceeding fourteen thousand five hundred dollars, to be expended under the direction of the commissioners of inland fisheries and game, for the following purposes, to wit: — for the purchase of a steamer for the use of said commissioners, a sum not exceeding twelve thousand dollars; for the further propagation and distribution of trout, salmon and shad, and the establishing and maintenance of hatching houses in such places in the Commonwealth as may be deemed necessary, a sum not exceeding one thousand dollars; and for compensation of such deputies as may be appointed by said commissioners, a sum not exceeding fifteen hundred dollars.

Sect. 2. Said commissioners are hereby authorized to sell or exchange the steamer now owned by the Commonwealth, and used by them, and to apply the same or the proceeds thereof to the purchase of a steamer as herein provided.

Sect. 3. All moieties of fines and forfeitures from prosecutions, which may accrue to the deputies appointed by said commissioners, shall be paid into the treasury of the Commonwealth.

Sect. 4. This act shall take effect upon its passage. [*Approved June 5, 1890.*

[H.]

LIST OF PONDS LEASED

By the Commissioners on Inland Fisheries, under Authority given by Chap. 384, Sect. 9, of the Acts of 1869.

[During the past year leases of nineteen ponds have expired by limitation. During 1891 twelve leases expire by limitation.]

1871.

April 17. Long Pond, in Falmouth, to Joshua S. Bowerman and three others, 20 years. (Expires 1891.)

May 15. Pratt's Pond, in Upton, to D. W. Batcheller, 20 years. (Expires 1891.)

1872.

Jan. 1. Sandy Pond, Forest Lake, or Flint's Pond, in Lincoln, to James L. Chapin and others, 20 years.

1874.

March 2. Upper Naumkeag Pond, in Ashburnham, to inhabitants of Ashburnham, 20 years.

May 20. Unchechewalom and Massapog Ponds, to the inhabitants of Lunenburg, 20 years.

July 11. Hazard's Pond, in Russell, to N. D. Parks and others, 20 years.

1875.

May 1. Chilmark Pond, in Chilmark, to J. Nickerson and others, agents, 20 years.

July 1. Haggett's Pond, in Andover, to inhabitants of Andover, 20 years.

Aug. 1. Oyster Pond, in Edgartown, to J. H. Smith and others, 20 years.

1876.

Feb. 1. Great Sandy Bottom Pond, in Pembroke, to inhabitants of Pembroke, 15 years. (Expires 1891.)

March 1. Dennis Pond, in Yarmouth, to inhabitants of Yarmouth, 15 years. (Expires 1891.)

1. Crystal Lake, in Wakefield, to Lyman H. Tasker and others, 15 years. (Expires 1891.)

20. Lower Naumkeag Pond, in Ashburnham, to inhabitants of Ashburnham, 18 years.

28. Dennison Lake, in Winchendon, to inhabitants of Winchendon, 15 years. (Expires 1891.)

28. Phillipston Pond, in Phillipston, to inhabitants of Phillipston, 20 years.

1876.

May 8. South-west Pond, in Athol, to Adin H. Smith and others, 15 years. (Expires 1891.)

June 10. Dug Pond, in Natick, to W. P. Bigelow and others, 15 years. (Expires 1891.)

Oct. 1. Farm and Learned's Pond, in Framingham, to inhabitants of Framingham, 15 years. (Expires 1891.)

1. Whitney's Pond, in Wrentham, to inhabitants of Wrentham, 15 years. (Expires 1891.)

1. Little Pond, in Falmouth, to George H. Davis, 15 years. (Expires 1891.)

1877.

March 1. Nine-mile Pond, in Wilbraham, to inhabitants of Wilbraham, 15 years.

15. Pentucket and Rock Ponds, in Georgetown, to inhabitants of Georgetown, 15 years.

Oct. 1. Fort, Great Spectacle and Little Spectacle Ponds, in Lancaster, to inhabitants of Lancaster, 20 years.

1. Magog Pond, in Acton and Middleton, to inhabitants of Acton, 15 years.

1878.

Jan. 1. Sniptuit, Long, Snow and Mary's Ponds, in Rochester, to inhabitants of Rochester, 15 years.

March 16. Asnaconcomic Pond, in Hubbardston, to Amory Jewett, Jr., 15 years.

May 1. Bear Hill Pond and Hall Pond, in Harvard, to inhabitants of Harvard, 15 years.

Oct. 1. Ell Pond, in Melrose, to J. A. Barrett and others, 15 years.

1879.

July 1. Fresh Pond, in Falmouth, to Thomas H. Lawrence, 20 years.

Oct. 1. Pomp's Pond, in Andover, to inhabitants of Andover, 15 years.

Nov. 1. Lake Quinapowitt, in Wakefield, to inhabitants of Wakefield, 14 years.

1880.

March 1. Lake Winthrop, in Holliston, to inhabitants of Holliston, 15 years.

June 1. Jordan Pond, in Shrewsbury, to inhabitants of Shrewsbury, 15 years.

July 1. Swan and Martin's Ponds, in North Reading, to inhabitants of North Reading, 15 years.

1881.

Jan. 1. Great and Job's Neck Ponds, in Edgartown, to Amos Smith and others, 15 years.

April 1. Long Pond, in Blandford, to Samuel A. Bartholomew and another, 15 years.

May 2. Nonesuch Pond, in Weston and Natick, to W. A. Bullard and others, 15 years.

1882.

March 1. Blair's Pond, in Blandford, to Curtis M. Blair and another, 15 years.

1882.

April 1. Ward Pond, *alias* Wightman Pond, in Ashburnham, to Herbert F. Rockwood and another, 15 years.

May 1. Horn Pond, in Woburn, to inhabitants of Woburn, 15 years.

June 1. Wickaboag Pond, in West Brookfield, to inhabitants of West Brookfield, 15 years.

1883.

April 6. Fresh Pond, in Tisbury, to Allen Look and others, 15 years.

23. Keyes Pond, in Westford, to M. H. A. Evans, 15 years

May 7. Singletary Pond, in Sutton and Millbury, to towns of Sutton and Millbury, 15 years.

7. The Great Pond, in Ashfield, to town of Ashfield, 15 years.

July 1. Lake Buell, in Monterey and New Marlborough, to town of New Marlborough, 10 years.

1884.

July 15. Asneybunskeit Pond, in Paxton, to inhabitants of Paxton, 10 years.

15. Center Pond, in Dennis, to inhabitants of Becket, 10 years.

15. Buckmaster Pond, in Dedham, to Francis Soule and others 10 years.

15. Fresh Pond, in Dennis, to inhabitants of Dennis, 10 years.

17. Farm Pond, in Cottage City, to John C. Hamblin and others 15 years.

18. Mashpee, Great and Wakeley Ponds, in Mashpee, to inhabitants of Mashpee, 10 years.

Aug. 30. Sand Pond, in Ayer, to inhabitants of Ayer, 15 years.

Sept. 5. Great Pond, in North Andover, to inhabitants of North Andover, 15 years.

[I.]

RETURNS OF LOBSTER FISHERIES.

1890.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Wm. Rowe,	Annisquam,	15	335	–
William Frye,	Beverly,	53	2,627	54
C. H. Very,	"	95	11,180	313
T. & Wm. Neville,	"	35	3,399	36
John Galloway,	"	40	1,464	18
Geo. Seeley,	"	25	1,526	33
Chas. Foster,	"	40	2,188	36
W. A. Russell,	"	7	151	–
Antonio Perry,	Boston,	105	9,161	422
John O. Lock,	"	162	6,824	240
J. P. Serrilha,	"	265	14,332	214
Antonio Francis,	"	155	24,617	317
Graciano Rio,	"	50	10,110	167
Peter Sylvia,	"	100	5,030	20
Antonio Ferreia,	"	100	18,901	306
Andrew Ferry,	"	100	15,077	176
Henry Taylor,	Brant Rock,	32	3,139	90
Thomas Pezzy,	" "	90	3,631	55
Isaac Walker,	" "	50	5,182	147
Lyman Sears,	" "	80	5,104	174
W. H. Tollman,	" "	60	2,655	58
D. B. Blackman,	" "	60	3,110	123
Geo. Sampson,	" "	40	2,123	179
B. P Williamson,	" "	95	5,457	73
Decenti Gay,	" "	100	13,713	379
Wilfred Keen,	" "	70	6,050	104
Henry Phillips,	" "	120	5,729	140
Oscar Gibbs,	Bourne,	25	2,207	199
Arthur Gibbs,	"	40	611	64
Frank Leonard,	Bournedale,	40	2,605	75
A. A. Nightingale,	"	30	991	11
Otis Eldredge,	Barnstable,	80	3,277	–
A. B. Robinson,	Bay View,	–	3,485	504
Wm Sargent,	" "	85	4,905	172
Alexander Sargent,	" "	100	12,860	763
Wm. Barber,	Brewster Isle,	50	2,806	102
H. A Jordan,	Chiltonville,	50	6,904	191
Charles Rogers,	"	–	4,240	25
R F. Swift,	"	50	6,777	182
Timothy Aiken,	Cuttyhunk,	49	8,794	763
John Arnold,	"	60	8,879	–
Mark L. Jamieson,	"	30	8,759	531

Returns of Lobster Fisheries — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Richard Beebe,	Cuttyhunk,	30	2,551	–
David Rogers,	"	40	2,706	538
Joshua Keeney,	"	–	4,747	–
Clarence Cleveland,	Chilmark,	32	6,643	679
Edward Mayhew,	"	15	862	20
Frank Cottle & Son,	"	140	13,868	1,059
Hiram Luce,	"	42	6,284	260
Willard Mayhew,	"	29	3,544	347
Luther Atheron,	"	15	847	38
Joseph Tillton,	"	15	3,832	600
Lyman E. Cottle,	"	25	6,191	564
Franklyn Tilton,	"	14	1,082	104
H. C. Hillinan,	"	18	2,837	235
Onslow Stewart,	"	18	6,328	226
Hiram O. Poole,	"	14	4,614	5
Manuel Vandura,	Cohasset,	50	4,852	251
Michael Maxim,	"	79	1,179	9
Warren White,	"	36	2,562	46
Antone Salvador,	"	70	11,405	193
J. Wilber,	"	26	458	9
John Sylvia,	"	43	3,074	30
Joseph S. Enos,	"	45	3,596	68
Jerry McCarty,	"	44	623	69
Harry H. White,	"	60	3,312	139
A. E. White,	"	65	9,137	324
Levi Cadoza,	"	115	15,576	669
Joseph Vandura,	"	75	7,871	259
Robert Ainsley,	"	50	4,433	86
Joseph Jason, Jr.,	"	40	6,548	200
Manual Almas,	"	85	8,344	262
E. F. Mayo,	Chatham,	75	928	34
Seth Mallows,	"	35	209	10
Oscar Gould,	"	30	202	–
Edmund Ryder,	"	150	8,531	947
W. R. Bloomer,	"	50	846	527
F. Bloomer,	"	75	2,731	–
John H. Harding,	"	42	702	267
Francis Hitchings,	"	30	166	17
Wilber Patterson,	"	25	118	–
Harrison Gould,	"	50	836	40
Seymore Patterson,	"	84	2,016	24
James Smith,	"	30	302	12
Joseph Bloomer,	"	140	3,002	1,145
David P. Clark,	"	30	1,014	14
C. F Eldredge,	"	84	1,278	69
J. Eldredge,	"	28	1,022	–
T. H. Kean,	"	22	676	3
Thomas Holway & Son,	"	60	3,588	131
V. C. Hamilton,	"	70	3,677	85
W. A. Bloomer,	"	156	3,102	350

Returns of Lobster Fisheries — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
S. W. Gould,	Chatham,	50	456	1
F. B. Nickerson,	"	120	6,164	121
N. F. Bloomer,	"	75	1,729	168
Geo. W. Bloomer,	"	90	3,808	952
Reuben Bearse,	"	75	2,182	420
Heman S. Rogers,	Dennis,	30	5,344	–
Geo. F. Freeman,	Duxbury,	39	3,447	104
W. E. Freeman,	"	29	4,562	47
James M. Snow,	"	55	8,995	270
J. K. Burgess,	"	50	6,653	352
F. E. Phillips,	South Duxbury,	25	1,735	–
Oscar C. Hunt,	" "	50	8,512	82
C. E. Peterson,	" "	30	4,981	72
Edmund Marsh,	" "	40	3,150	87
Edgar J. Smith,	" "	30	2,833	58
J. H. Peterson,	" "	20	1,378	36
W. E. Peterson,	" "	35	5,672	82
F. E. Wardsworth,	" "	50	9,277	233
E. W. Cook,	" "	30	2,241	24
Isaac Symmes,	" "	30	1,790	14
Clarence M. Smith,	" "	30	1,238	32
Arthur E. Prior,	" "	10	205	5
W. J. Turner,	" "	50	6,944	164
A. C. Swain,	Fairhaven,	30	466	79
E. D. Sherman,	"	28	784	62
Freeman Smith,	Gay Head,	23	3,067	115
Wm. B. Luce,	" "	15	1,140	130
L. W. Mayhew,	" "	35	8,861	1,041
C. C. Look,	" "	14	2,092	107
Anderson Poole,	" "	15	4,229	–
J. A. Mayhew,	" "	17	3,814	356
Albert Reed,	" "	20	5,599	45
John H. Foster,	" "	75	3,707	152
Wm. Mayhew,	" "	20	7,017	942
Rodney Reed,	" "	18	5,721	519
C. H. Ryan,	" "	34	4,752	595
Samuel Anthony,	" "	12	799	222
Charles Peterson,	Green Harbor,	50	4,923	130
Geo. Delano,	" "	50	683	15
Alden Parsons,	Gloucester,	75	9,463	474
Frederick Parsons,	"	50	1,556	41
C. A. Parsons,	"	40	5,841	246
A. & H. Parsons,	"	75	10,691	630
E. F. Parsons,	"	70	6,006	215
J. W. Pinkham,	"	30	912	7
C. W. Osier,	"	170	4,556	156
Melvin Parsons,	"	50	4,917	495
Joseph Parsons,	"	70	6,851	228
Geo. Sargent,	"	85	4,417	673
Wm. S. Douglass,	"	30	3,919	–

Returns of Lobster Fisheries — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Joseph Douglass,	Gloucester,	80	4,415	–
Wm. Walen,	"	75	6,395	445
Frank Peters,	Gosnold,	55	8,411	508
Frank Veeder,	"	57	6,160	704
Thomas Jones,	"	25	1,762	122
Timothy Akin, Jr.,	"	50	4,800	–
Oscar H Stetson,	"	16	4,229	194
C. C. Allen,	"	23	3,564	282
I. H. Tilton,	"	50	25,723	894
J. W. Tilton,	"	20	4,385	444
Russell Rotch,	"	40	6,009	568
Eugene Brightman,	"	30	10,627	1,280
Wm. W. Allen,	"	41	1,211	40
Charles A. Bates,	Hull,	60	992	56
Daniel McDonald,	"	100	7,590	32
J. & D. Reed,	"	160	11,390	328
Eben Pope,	"	80	6,540	194
Frederick Smith,	"	100	11,240	45
J. C. Augustus,	"	60	4,789	190
H. W. Mitchell,	"	75	3,640	91
Wm. Deane,	"	80	6,957	112
John H. Smith,	"	80	4,692	105
B. F. Pope,	"	80	11,421	979
Andrew Galiano,	"	65	6,256	610
Daniel Southers,	"	90	9,090	207
G. T. Augustus,	"	70	7,457	239
F. S. & R. James, Jr.,	"	100	4,390	49
A. B. Mitchell,	"	80	11,811	509
Andrew F. Pope,	"	80	6,625	326
Schr. Louisa Jane,	"	300	16,115	354
A. B Cleverly,	"	75	4,789	33
Geo. F. Pope,	"	80	9,140	466
H. B. Mitchell,	"	80	5,280	107
Louis Galiano,	"	80	1,365	30
Alfred Galiano,	"	80	6,000	120
M. Sturgis,	Hyannis,	–	287	45
A. L. Leavitt,	Hingham,	22	468	3
Rust & Grant,	Ipswich,	30	2,338	101
W. B. Atkinson & Bros.,	"	20	2,077	37
A. W. Montgomery,	"	35	1,110	36
James W. Merchant,	Lanesville,	20	2,951	165
Adison Woodbury,	"	30	1,439	71
A. W. Ryley,	"	50	2,347	102
G. H Woodbury,	"	35	6,217	813
Elias Haraden,	"	30	1,847	24
J J. Woodbury,	"	60	3,375	47
John Roberts,	"	43	1,384	–
W. H. Sargent,	"	40	846	19
Ezra Haraden,	"	60	8,946	286
C. S. Stone,	Lynn,	35	3,196	4

Returns of Lobster Fisheries — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Edward Lafreniere,	Lynn,	40	2,446	3
Wm. Harlow,	Manomet,	70	4,340	161
Sam'l Bartlett,	"	45	1,774	89
C. H Dixon,	"	100	8,970	347
Wallace Nightingale,	"	40	2,599	79
J H. Valler,	"	100	9,667	355
Rufus Ellis,	"	50	5,191	208
F. B Holmes,	"	53	5,437	151
A. L. Holmes,	"	51	3,918	95
A. C. Sampson,	"	50	3,606	127
Sans Standly,	"	20	1,801	74
W. H. Peterson,	"	35	1,490	67
S. B. Blackmer,	"	35	3,814	123
Walter Chase,	"	36	3,456	89
Henry Dodge,	"	50	4,256	122
G. W. Tarr,	"	18	328	10
John Adams,	Marblehead,	70	7,189	222
Tutt & Allen,	"	60	5,810	49
Joseph H. Atkins,	"	95	9,347	441
N. Stone, Jr.,	"	65	2,105	46
E. A. Keene,	"	47	3,239	152
John Smithers,	"	24	1,231	–
John Florence,	"	35	1,758	120
Frank A. Frost,	"	33	2,565	240
Stephen Perkins,	"	60	2,502	169
John Stacy,	"	63	5,082	139
J. S. Stone,	"	42	5,145	220
Charles Smethmest,	"	45	2,225	76
B. F. Stevens,	"	40	3,792	118
Stephen Q Smith,	"	40	1,507	74
Sam'l Hooper,	"	60	1,381	37
Wm. B Dennis,	"	62	2,093	42
Chandler Lewis,	Manchester,	27	1,960	180
Lewis Sargent,	"	25	589	32
W. E. Heath,	"	23	666	49
Chas. Sargent,	"	30	1,597	138
Everett L. Small,	"	45	2,491	91
Frank Story,	Magnolia,	30	846	1
J. B. Knowlton,	"	30	2,024	169
David Worth,	"	60	4,594	252
John G. Burnham,	"	40	7,219	1,567
J. J. Nye,	Mattapoisett,	45	1,196	179
W. L. Richmond,	"	8	150	7
Walter K. Perry,	"	48	1,016	351
Lillyburn Hiller,	"	40	349	250
E. B. Hiller,	"	70	2,423	337
Adelbert Winters,	"	30	260	35
F. A. Bowman,	"	30	631	32
W. E. Bowman,	"	35	332	102
C. H. Place,	Nantucket,	48	4,115	38

Returns of Lobster Fisheries — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Geo. L. Hatch,	Nantucket,	40	3,694	277
A. B. & C. B. Brooks,	"	50	2,377	151
Wm. Norcross,	"	7	319	48
J. F. Ramsdell,	"	11	592	5
John Watkins,	"	16	588	21
Benjamin Atwood,	Nantasket,	76	6,722	177
John Johnson,	"	76	2,645	65
C. E. Gove,	Nahant,	130	7,746	108
C. C. Croscup,	"	30	547	–
Samuel Covell,	"	60	2,900	55
G. W. Taylor,	"	45	2,645	177
C. W. Taylor,	"	40	3,479	65
D. B. Gould,	Orleans,	50	585	54
F. H. Hayden,	"	30	580	95
W. G. Loring,	Provincetown,	60	749	149
W. C. Snow,	"	40	134	–
Alfred Mayo,	"	50	297	1
James V. Bowley,	"	90	178	24
David Newcomb,	"	48	886	168
F. M. Bowley,	"	30	69	13
Geo. Lewis,	"	50	214	–
John W. Savage,	"	40	400	59
J. A. Rich,	"	50	1,531	75
Wm. Fears,	Pigeon Cove,	24	419	14
Amos Lufkin,	" "	36	4,155	124
C. Morgan,	" "	80	10,365	1,051
F. Johnson,	" "	20	584	33
Jabez Kendall,	" "	25	2,535	147
Charles Tallman,	Plymouth,	68	2,438	47
Joseph P. Thurston,	"	50	5,082	125
B. F. Hodgiss,	"	30	2,200	26
Levi Thurston,	"	56	4,223	47
James Deacon,	"	41	2,653	36
A. M. Watson,	"	48	5,240	162
Cornelius Briggs,	"	45	3,749	115
Geo. Atwell,	"	50	6,073	118
Augustus B. Rogers,	"	48	5,151	54
A. M. Watson, Jr.,	"	51	5,958	220
Benjamin Manter,	"	58	868	72
E. P. Bartlett,	"	44	3,644	129
L. B. Briggs,	"	60	5,163	231
B. F. Simmons,	"	25	902	–
W. H. Phinney,	"	49	1,989	37
J. F. Bartlett,	"	40	1,956	66
G. F. Bennison,	"	40	3,113	88
Geo. Manter,	"	50	5,281	167
Frank Peterson,	"	50	4,303	198
Harlow & Chandler,	"	150	13,241	349
Oscar Marsh,	"	40	1,117	93
A. R. Gorham,	"	40	5,213	244

Returns of Lobster Fisheries — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Sam'l Burgess,	Plymouth,	64	1,256	166
Geo W. Holmes,	"	28	3,681	241
D. W Nightingale,	"	60	3,557	532
S J. Valler,	"	52	4,933	149
James H. Bagnell,	"	30	2,941	9
H. L. Sampson,	"	53	6,461	121
J. B. Walker,	"	–	2,900	375
Chas. Pierce,	"	55	4,189	30
Geo. Griswold,	"	40	3,500	111
Geo. Tarr,	"	17	513	6
Edward Lewis & Son,	Rockport,	125	19,180	381
John R Tarr,	"	85	10,363	426
O. D. Griffin,	"	20	764	4
Wm. Knights,	"	25	355	23
Michael Knowlton,	"	12	135	7
Samuel G. Perkins,	"	125	14,074	244
S. F. Norwood,	"	40	1,320	150
J. Phillips,	"	75	5,711	–
Wm. Stillman,	"	–	3,837	184
J. B. Parsons,	"	80	1,600	500
Eddie Wendell,	"	80	4,005	461
Wm. Day,	"	49	1,846	18
H. G. Tucker,	Salem,	60	2,200	24
H. P. Foye,	"	40	2,073	74
E. C. Lungren,	"	23	4,889	244
Chas. Berry,	"	30	3,585	109
John Clark,	"	80	9,883	327
H. G. Swift,	Sagamore,	40	3,622	423
Allen A. Flanders,	Squibnocket,	18	3,759	282
Capt. S. Flanders,	"	28	2,640	155
Henry Harding,	Swampscott,	34	1,755	–
Nathaniel Pierce,	"	20	3,199	27
Alfred Watts,	"	55	4,862	46
G. A. R. Horton,	"	40	11,359	44
E. E. Smith,	"	30	2,191	20
Walter Jones,	"	43	1,438	24
H. A. Collyer,	"	28	788	48
S &. A. Hammond,	"	44	10,024	228
Richard Rich,	"	18	362	2
Wm Segar,	"	30	2,919	14
F. E. Stone,	"	60	9,934	43
Josiah Nickerson,	"	20	1,743	–
Lorenzo Woodbury,	"	58	8,684	120
Jesse Spooner,	Scituate,	40	1,282	–
D. P. Sylvester,	"	40	2,179	70
James Doherty,	"	70	3,231	96
Patrick Mulkerne,	"	54	1,169	–
John Welch,	"	40	4,501	277
Robert Oherne,	"	100	3,397	81
Geo. F. Edson,	"	73	4,916	467

Returns of Lobster Fisheries — Concluded.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg bearing Lobsters returned to the Water alive.
James Hughes,	Scituate,	45	2,485	67
John Barry,	"	50	1,357	–
Elijah P. Pratt,	"	60	6,203	1,255
J. F. Cushman,	"	50	4,242	85
John Duffy,	"	40	874	–
Dan'l Duffy,	"	60	2,792	57
C. B Pratt,	"	100	2,964	310
Wm. Supple,	"	62	2,664	98
Daniel Ward,	"	75	4,040	–
Wm Ward,	"	91	5,040	113
Thomas Dwyer,	"	120	9,450	–
Wm. Duffy,	"	40	462	–
John Fallone,	"	65	1,002	–
Edward Graham,	"	45	1,329	–
C. Collins,	Truro,	22	111	19
F. S. Long,	Vineyard Haven,	25	1,200	30
Marshal Norton,	" "	30	3,744	244
W. M. Randall,	" "	6	192	–
T. S Long,	" "	–	1,200	300
John Belcher,	Winthrop,	16	78	–
John Wardsworth,	"	80	7,619	80
Treworgy Brothers,	"	130	13,263	1,123
W. E. Wyman,	"	160	18,440	471
G. W. Wyman,	"	40	1,951	36
John Stevenson,	"	60	2,180	23
John Flanagan,	"	50	4,159	202
Alva Belcher,	"	100	12,671	180
S. B. Belcher,	"	15	1,550	68
J. B. Wyman,	"	60	9,037	–
G. A. Gifford,	Westport,	70	9,830	1,369
E. B. Gifford,	"	60	9,117	937
H. F. Hitt,	"	25	1,083	98
T. J. Brightman,	"	35	2,041	300
J. W. Manchester,	"	3	187	5
T. B. Pierce,	"	38	815	45
O. C. Grinnell,	Wood's Holl,	50	4,030	418
Henry Hinckley,	Wellfleet,	25	80	–
Total men, 379,		19,554	1,612,129	70,909

Comparison of Returns of Lobster Fisheries.

YEAR.	No. of Men.	No. of Traps.	No. of Large Lobsters.	No. of Egg-bearing Lobsters returned to the Water alive.
1889,	344	20,016	1,359,645	61,832
1890,	379	19,554	1,612,129	70,909
Increase of 1890 over 1889,	35	–	252,484	9,067
Decrease of 1890 below 1889,	–	462	–	–

[APPENDIX K.]

TABLES SHOWING RETURNS OF POUNDS, WEIRS, GILL AND SWEEP NETS.

[K.]

TABLE I. — GILL AND SWEEP NETS. — *Showing*

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.
James D. Kelley,	Barnstable,	–	22	–	855	–	–	21	12
C. E. Bearse,	"	–	–	–	–	–	–	–	–
Moses Sturgiss,	"	–	–	–	–	–	–	–	18
David B. Shove,	Berkley,	–	700	120,000	–	–	–	–	–
J. W. Thrasher,	"	–	232	102,350	–	–	–	–	–
C. N. Simmons,	"	–	546	80,133	–	–	–	–	–
Neil Nelson,	Brewster,	–	400	–	–	–	9	–	–
Elmer F. Mayo & Bros.,	Chatham,	–	–	–	–	–	–	–	–
Collins Howes,	"	–	–	–	–	–	–	–	–
C. C. Nickerson,	"	–	–	–	–	–	–	–	–
J. A. Crowell,	"	–	–	–	–	–	–	–	–
Geo. E. Small,	"	–	–	–	–	–	–	–	–
Cyrenus Ellis,	"	–	–	–	–	–	–	–	–
E. S. Gould,	"	–	–	–	–	–	–	–	–
John S. Ryder,	"	–	14	191	31	36	2	26	1
B. F. Patterson,	"	–	22	–	–	–	–	–	–
Otis C. Eldredge,	"	–	–	–	–	–	–	–	–
H. F. Gould,	"	–	–	–	–	–	–	–	3
A. Z. Atkins,	"	–	–	–	–	–	169	–	–
E. Z. Ryder,	"	–	–	–	–	–	–	–	–
Calvin Hammond,	"	–	266	–	–	–	–	–	6
S. W. Mallows,	"	–	–	–	–	–	–	–	–
Wm. A. Bloomer,	"	–	–	–	–	–	–	–	–
F. C. Hitchins,	"	–	–	–	–	–	–	–	–
Jeremiah Eldredge,	"	–	–	–	–	–	–	–	–
T. H. Gill,	"	–	–	–	–	–	–	–	–
V. C. Hamilton,	"	–	–	–	–	–	–	–	–
N. F. Bloomer,	"	–	–	–	–	–	–	–	–
D. P. Clark,	"	–	–	–	–	566	–	–	13
Francisco Bloomer,	"	–	–	–	–	–	–	–	–
Geo. W. Bloomer,	"	–	–	–	–	–	–	–	–
Robert Ainsley,	Cohasset,	–	–	–	70	–	–	–	–
Joseph Jason, Jr.,	"	–	–	–	–	–	–	–	–
A. E. White,	"	–	–	–	–	6,075	–	–	–
Levi Cadoze,	"	–	–	–	–	–	–	–	–
Antone Sydney,	"	–	–	–	–	1,995	–	–	–
John Sylva,	"	–	–	–	–	–	–	–	–
C. E. Bearse,	Centerville,	–	–	–	–	–	–	–	25
W. W. Hallett,	"	–	–	–	–	–	–	–	–
S. H. Crawford,	"	–	24	–	–	–	–	1,347	4
W. B. Nickerson,	Cotuit,	–	–	–	–	500	40	–	–
H. M. Smith,	Chilmark,	–	–	5,112	–	–	–	–	–
C. N. Simmons,	Dighton,	–	800	150,000	–	–	–	–	–
J. A. Hardy,	"	–	614	96,926	–	–	–	–	–
G. G Snow,	Dennisport,	–	–	3,019	–	–	–	–	18
Sylvanus Wickson,	"	–	–	–	–	–	–	–	–
Joshua Pierce,	"	–	–	–	–	–	–	–	–
Nehemiah Edwards,	"	–	–	–	–	–	–	–	–
J. H. Long,	"	–	–	–	–	–	–	–	–
H. K. Knowles,	Eastham,	–	–	–	–	–	–	–	–
James Penniman,	"	–	–	–	–	–	–	–	–
H. W. Allen,	Fairhaven,	–	–	–	–	4,077	–	21	279
G. R. Wickson,	"	–	–	141	–	3,361	–	20	67
Albert Swain,	"	–	–	–	–	–	–	13	–
Daniel W. Dean,	"	–	–	–	–	13,700	85	–	121
John T. Besse,	"	–	–	–	–	–	–	57	–
G. L. Hiller,	"	–	–	–	–	–	–	14	62
C. E. Allen,	"	–	–	–	–	7,256	–	–	43
H. N. Wilber,	"	–	–	–	–	12	–	6	31
D. C. Potter,	"	–	–	–	–	–	–	–	13
Daniel Douglass & Hodgkins,	Gloucester,	–	8	455	3,064	56	1	–	–
John Davis,	"	–	–	–	18,245	–	–	–	–

the Catch of Each during the Year 1890.

Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
–	161	363	–	–	11	2	–	–	4,037	–	–	–	–	–
–	–	–	–	–	–	–	–	–	1,284	–	–	–	–	–
–	–	–	–	–	–	–	–	–	4,867	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	2,000	–	–	4	4	600	–	13,108	300	350	600	–	3
–	–	–	–	–	–	–	3,705	–	2,896	–	–	–	–	–
–	–	–	–	–	–	–	272	–	–	–	–	–	–	–
–	–	–	–	–	–	–	643	–	771	–	–	–	–	–
–	–	–	–	–	–	–	106	–	208	–	–	–	–	–
–	–	–	–	–	–	–	188	–	136	–	–	–	–	–
–	–	–	–	–	5	7	399	–	615	–	–	–	–	–
–	–	–	–	–	–	–	–	–	647	–	–	–	–	–
5	–	314	–	2	–	–	863	4	–	–	–	–	–	–
–	–	–	–	7	–	–	574	–	985	–	–	–	–	–
–	–	–	–	1,152	–	–	598	–	707	–	–	–	–	–
–	–	–	–	–	–	–	–	13	598	–	–	–	–	–
–	–	–	–	–	–	–	–	–	1,322	–	–	–	–	–
–	–	–	–	–	–	–	2,972	3	8,448	–	–	–	–	–
–	–	–	–	13	8	–	2,570	–	690	–	1,775	–	–	–
–	–	–	–	–	–	–	253	–	998	–	–	–	–	–
–	–	–	–	–	–	–	724	–	1,701	–	–	–	–	–
–	–	–	–	–	–	–	579	–	597	–	–	–	–	–
–	–	–	–	–	182	–	1,485	13	509	–	–	–	–	–
–	–	–	–	–	–	–	20	–	–	–	–	–	–	–
–	–	–	–	1,855	–	–	328	30	502	–	–	–	–	–
–	–	–	–	–	–	–	1,546	–	350	–	–	–	–	–
–	–	127	–	15	–	–	986	3	548	–	–	–	–	–
–	–	–	–	–	–	–	2,996	–	672	–	–	–	–	–
–	–	–	–	1,300	–	–	43	1,341	–	–	–	–	–	–
–	–	–	–	–	–	–	375	–	–	–	–	–	–	–
–	–	–	–	57	–	–	–	–	–	–	39	–	–	–
–	–	–	–	–	–	–	288	–	–	–	–	–	–	–
–	–	–	107	–	–	–	151	–	–	102	–	–	–	–
–	–	–	–	341	–	–	–	–	–	175	117	150	–	–
–	–	–	–	–	–	–	39	–	–	39	–	–	–	–
–	–	–	–	–	–	–	–	43	2,600	–	–	–	–	–
–	–	–	–	–	–	–	–	–	6,616	–	–	–	–	–
6	158	280	–	–	40	–	1	5	431	–	–	–	–	–
–	–	–	–	–	–	–	–	–	818	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	4,413	–	–	2,943	–	2,813	–	–	–	–	–
–	–	–	–	813	–	–	–	–	8,589	–	–	–	–	–
–	–	–	–	–	–	–	–	–	2,251	–	–	–	–	–
–	–	–	–	–	–	–	–	–	830	–	–	–	–	–
–	–	–	–	–	–	–	–	–	562	–	–	–	–	–
–	–	–	–	–	–	–	43	–	3,817	25	–	–	–	–
–	–	–	–	–	–	–	14	–	4,340	–	–	–	–	–
–	–	2	–	–	1	–	–	2	722	65	4	–	–	–
–	–	100	–	–	–	–	19	6	188	7	1	–	–	–
–	–	–	–	–	–	–	–	–	547	–	–	–	–	–
–	–	–	–	–	–	–	–	8	1,024	–	1	–	–	–
–	–	–	–	–	–	–	–	–	1,205	–	–	–	–	–
–	–	–	–	–	6	–	–	1	480	3	1	–	–	–
–	–	60	–	–	2	–	–	1	2,548	10	–	–	–	–
–	–	–	–	–	–	–	–	–	63	–	–	–	–	–
–	–	–	–	–	–	–	–	–	92	–	–	–	–	–
–	–	870	–	5	2	–	21,761	–	118	–	–	32	–	–
–	–	16	–	570	–	–	231	–	–	–	–	–	–	–

TABLE I. — Continued.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.
D. N. Mehlman,	Gloucester,	–	–	–	48,289	–	–	–	–
Avery Bates,	"	–	–	–	9,600	1,200	–	–	–
Orrin C. Crosby,	Hyannis,	–	–	–	–	1	2	173	214
F. B. Sherman,	"	–	–	–	–	–	–	–	–
E. Taylor,	"	–	–	–	–	–	–	–	5
W. J. Tuttle,	Harwich,	–	–	–	–	–	–	–	3
So. Hadley Falls Fish Co.,	South Hadley,	–	58	–	–	–	–	–	–
C. F. Stranger,	Kingston,	–	–	–	–	–	–	–	–
J. Woodbury,	Lanesville,	–	–	–	9,941	13,106	–	–	–
J. W. Roberts,	"	–	–	–	2,331	–	–	–	–
Bartlett Morgan,	"	–	–	–	17,871	1,842	–	–	–
Wm. Sanders,	"	–	–	–	–	3,861	–	–	–
Albert Morgan,	"	–	–	–	10,050	825	–	–	–
Joseph Sanders,	"	–	–	–	–	–	–	–	–
Martin Laning,	"	–	–	–	5,600	200	–	–	–
Geo. Harding,	"	–	–	–	460	370	–	–	–
Ezra Haraden,	"	–	–	–	10,060	–	–	–	–
Geo. W. Douglass,	Marblehead,	1	125	85	2,170	32,800	–	–	–
B. F. Stevens,	"	–	–	–	–	–	–	–	–
Raymond Glass,	"	–	–	9,200	–	–	–	–	–
Stephen Perkins,	"	–	–	–	7,204	–	–	–	–
Randall Hathaway,	Middleborough,	–	–	74,749	–	–	–	–	–
A. N. Shurtleff,	Mattapoisett,	–	–	275,980	–	–	–	–	–
F. B. Holmes,	Manomet,	–	–	–	–	–	–	–	–
Cornelius Briggs,	"	–	–	–	–	76	–	–	–
F. A. Tarr,	Magnolia,	–	–	–	70,400	12,300	–	–	–
Jones & West,	Manchester,	–	–	–	52,450	24,010	–	–	–
E. B. Cross,	Medford,	–	–	8,200	–	–	–	–	–
Henry Cotton,	"	–	–	201,100	–	–	–	–	–
J. A. Cross,	"	–	–	173,169	–	–	–	–	54
Warren F. Ramsdell,	Nantucket,	–	–	–	–	10,080	–	–	–
Geo. Huxford,	"	–	–	–	–	–	–	–	–
J. O. Freeman,	"	–	–	–	–	–	–	–	–
Frank Meigs,	"	–	–	–	–	–	–	–	–
E. M. Dunham,	"	–	–	–	–	–	–	–	–
H. B. Cash,	"	–	51	2	36	3,478	2	4	1
Geo. E. Orpin,	"	–	–	–	–	–	–	–	–
G. H. Hamlin,	"	–	–	–	–	–	–	–	–
W. I. Fisher,	"	–	–	–	–	–	–	70	16
Geo. Hamlin,	"	–	–	–	–	–	–	–	–
A. B. & E. Brooks,	"	–	–	–	–	–	–	–	–
James Kiernan,	"	–	–	–	10	20	–	–	–
W. J. Francis,	"	–	–	–	–	–	–	–	–
John Watkins,	"	–	–	–	–	100	–	47	–
Leander Small,	"	–	–	–	–	–	–	–	–
A. C. Manter,	"	–	–	–	–	–	–	–	72
W. N. Adams,	"	–	–	–	–	–	–	–	–
Nester Thurlow,	Newburyport,	–	–	–	–	1,555,200	–	–	–
P. C. Stevens,	"	–	–	–	–	1,500,830	–	–	–
C. A. Caswell,	"	–	–	57,000	116,700	33,800	–	–	–
L. Phinney,	"	–	–	–	188,182	688,930	–	–	–
Richard Pierce,	"	–	–	755	–	1,600	–	–	–
A. A. Pike,	"	–	–	–	57,600	–	–	–	–
J. J. Pool,	Pigeon Cove,	–	18	1,500	1,495	203	–	–	–
J. Bushey,	" "	–	–	–	–	–	–	–	–
John Elwell,	" "	–	–	200	–	–	–	–	–
Martin Currier,	" "	–	26	–	6,676	–	–	–	–
Ervin Parsons,	" "	–	–	85	909	–	–	–	–
John Newman,	" "	–	256	430	6,932	1,048	–	–	–
Calvin Parsons,	" "	–	–	–	2,763	–	–	–	–
Andrew Morgan,	" "	–	–	–	4,460	–	–	–	–
James G. Frost,	" "	–	63	360	1,683	806	–	–	–
Joseph Brown,	" "	–	–	–	75	40	–	–	–
Wm. Harlow,	Plymouth,	–	–	–	–	–	–	–	–
Joseph Sears,	Provincetown,	–	–	136	5,728	–	–	–	–
J. A. Rich,	"	–	–	–	–	–	–	–	–
J. H. Fuller,	"	–	–	–	–	–	–	–	–
J. W. Eaton,	"	–	–	–	500	–	–	–	–
J. K. Corea,	"	–	–	–	–	–	–	–	–
Isaac Tyler,	"	–	–	–	–	–	–	–	–
C. Williams, Jr.,	"	–	–	–	–	–	–	–	–
B. R. Kelley,	"	–	–	–	–	–	–	–	–

TABLE I. — Continued.

Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
–	–	–	–	–	–	–	1,471	–	–	–	–	–	–	–
–	–	–	–	–	–	–	1,800	–	–	–	–	–	–	–
–	8	–	–	–	–	–	–	–	6,834	14	26	–	–	–
–	–	–	–	–	–	–	–	–	26	–	–	–	–	–
5	–	–	–	–	–	–	–	–	408	–	–	–	–	–
–	–	–	–	368	10	–	1,898	1	1,590	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	2,000	–	–
–	–	14,626	–	–	–	–	571	–	5	5	1	–	–	–
–	–	–	–	–	–	–	168	–	–	–	–	–	–	–
–	–	–	–	–	–	–	447	–	–	–	–	–	–	–
–	–	–	–	–	–	–	698	–	–	–	–	–	–	–
–	–	–	–	–	840	–	479	–	–	–	–	–	–	–
–	–	–	–	–	–	–	595	–	–	–	–	–	–	–
–	–	–	–	–	–	–	900	–	–	–	–	–	–	–
–	–	–	–	–	–	–	1,142	–	–	–	–	–	–	–
–	–	–	–	–	–	–	343	–	–	–	–	–	–	–
–	–	3,878	–	25	–	2	18,902	–	20	1	–	–	2,920	968
–	–	–	–	–	–	–	–	–	–	–	2,706	–	–	–
–	–	–	–	–	–	–	900	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	242	–	–	–	–	–	–	1,190
–	–	–	–	–	–	–	275	–	–	–	–	–	–	–
–	–	2,308	55	985	–	–	6,658	–	–	–	–	–	–	–
–	–	2,710	–	–	–	–	18,107	–	701	–	–	–	–	3,658
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	219
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	45	–	–	–	2,263	–	–	–	46	9,000
–	–	–	–	–	–	–	–	–	751	–	–	–	–	–
–	–	–	–	–	–	–	–	–	2,699	–	–	–	–	–
–	–	–	–	–	–	–	–	–	2,606	–	–	–	–	–
–	–	–	–	–	–	–	66	–	2,373	–	–	–	–	–
–	–	288	–	28	2	–	109	–	7	1	1	–	2	–
–	–	–	–	–	–	–	–	–	3,354	–	–	–	–	–
–	–	–	–	–	–	–	–	–	322	–	–	–	–	–
–	–	60	–	–	41	–	–	–	5,469	–	–	7	–	–
–	3	–	–	–	–	–	–	–	169	–	–	–	–	–
–	–	–	–	–	–	–	–	–	2,590	–	–	–	–	–
–	–	5	–	–	3	–	58	1	10	1	–	–	–	–
–	–	–	–	–	–	–	–	–	1,231	–	–	–	–	–
–	–	–	–	–	2	–	–	–	106	–	–	–	4	–
–	–	–	–	–	–	–	–	–	1,749	–	–	–	–	–
–	–	–	–	–	41	–	–	–	37,800	–	–	–	–	–
–	–	–	–	–	4	–	–	–	3,196	–	–	–	10	–
–	–	–	–	–	–	–	13,126	–	200	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	53,850	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	277	–	–	–	–	–	–	–	–	188	11,630	–	57,000
–	–	–	–	–	–	–	490	–	–	–	–	–	–	2,000
–	–	–	–	–	–	–	1,384	–	–	–	–	–	211	–
–	–	–	–	–	–	–	3,105	–	–	–	–	–	–	–
–	–	–	–	–	–	–	29	–	–	–	–	–	–	–
–	–	–	–	–	–	1	5,090	–	1	–	–	–	–	–
–	–	496	–	–	–	–	193	–	12	–	–	–	–	–
–	–	–	–	–	–	–	399	–	–	–	–	–	–	–
–	–	–	–	–	–	–	286	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	79	–	–	–	–	4,161	–	–	–	13	–	238	–
–	–	120	–	–	–	–	6,030	–	–	–	–	–	–	–
–	–	–	–	–	–	–	228	–	–	–	–	–	–	–
–	–	75,000	–	–	–	–	3,972	–	2,781	–	–	–	–	–
–	–	–	–	–	–	–	160	–	–	–	–	–	–	–
–	–	–	–	–	–	–	1,598	–	447	–	–	–	–	–
–	–	151	–	–	–	–	818	–	474	–	–	–	–	–
–	–	–	–	5,000	–	–	1,000	–	–	–	–	–	–	–
–	–	–	–	951	–	–	–	–	2,817	–	–	–	–	–
–	–	–	–	–	–	–	144	–	–	–	–	–	–	–
–	–	–	–	1,230	–	–	44	–	–	–	–	–	–	–

TABLE I. — Concluded.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.
James Atkins,	Provincetown,	–	–	–	–	–	–	–	–
Jesse Wiley,	"	–	–	–	–	–	–	–	–
K. Freeman,	"	–	–	–	130	100	–	–	–
Ruben Mayo,	"	–	–	–	–	–	–	–	–
John C. Weeks, Jr.,	"	–	–	–	–	–	–	–	–
A. S. Daggett,	"	–	–	–	–	–	–	–	–
W. M. Elwell,	"	–	–	–	–	–	–	–	–
J. J. Cook,	"	–	–	–	–	1,700	–	–	–
Solomon Rich,	"	–	–	–	185,700	–	–	–	–
Elisha Nickerson,	"	–	–	–	–	–	–	–	–
Joseph E. Weeks,	"	–	–	–	–	–	–	–	–
Isaac W. Lewis,	"	–	–	–	–	–	–	–	–
H. L. Mayo,	"	–	–	–	–	–	2	–	–
Geo. H. Lewis,	"	–	–	–	–	–	–	–	–
E. W. Smith,	"	–	–	–	400	3,000	1,566	–	–
Geo. Lewis,	"	–	–	–	–	–	–	–	–
J. J. Look,	"	–	–	–	–	355	–	–	–
Ruben Ryder,	"	–	–	–	–	2,225	–	–	–
Jesse Ghen,	"	–	–	–	–	–	–	–	–
J. P. C. Harvender,	"	–	–	–	12,956	46	–	–	–
Levi B Kelley,	"	–	–	–	–	–	–	–	–
John M. Roser,	"	–	–	–	–	–	–	–	–
M. S. Browne,	"	–	–	–	–	–	–	–	–
Gustavus King,	Raynham,	–	553	86,890	–	–	–	–	–
G. B. & E. Williams,	"	–	896	104,850	–	–	–	–	–
Geo. Wendell,	Rockport,	–	–	–	11,700	960	–	–	–
Chester W. Gott,	"	–	–	–	4,950	–	–	–	–
Christian Anderson,	"	–	–	–	–	1,600	–	–	–
Robert Wendell,	"	–	–	–	12,110	–	–	–	–
Chas. Norwood,	"	–	–	–	4,871	–	–	–	–
Alfred Sanders,	"	–	–	–	24,000	–	–	–	–
Hudson Smith,	"	–	–	–	1,512	160	–	–	–
Murdock Matherson,	"	–	–	–	–	–	–	–	–
Jerry Sheehan,	"	–	–	–	91,700	–	–	–	–
Gilbert Rich,	"	–	–	–	20,935	1,500	–	–	–
John Simmons,	Somerset,	–	2	16,802	–	16	2	–	–
F. W. Luther,	"	–	–	–	–	–	41	540	–
Edward Wilber,	"	–	181	80,900	–	–	–	–	–
Christopher O'Neil,	Scituate,	–	2	–	3,700	–	–	–	–
P. L. Prouty,	"	–	–	93	3,290	210	–	–	–
Wm. R. Turner,	"	–	–	–	663	–	–	–	–
Wm. Bates,	"	–	–	–	–	1,000	–	–	–
Geo. T. Edson,	"	–	–	–	2,187	4,484	–	–	–
J. P. Jordan,	"	–	–	–	400	–	–	–	–
John Flarity,	"	–	–	–	300	–	–	–	–
James Edson,	"	–	–	–	–	285	–	–	–
Richard Hoar,	"	–	–	–	50	–	–	–	–
Dennis McCarty,	"	–	–	–	–	–	–	–	–
John Welch,	"	–	–	–	130	–	–	–	–
G. A. R. Horton,	Swampscott,	–	–	–	6,300	77,200	–	–	–
J. W. Hart & Co.,	Taunton,	–	312	36,230	–	–	–	–	–
C. H. Collins,	Truro,	–	–	–	–	523	–	–	–
Geo. T. Lewis,	"	–	–	–	–	–	–	–	–
R. S. Lombard,	"	–	–	–	–	–	–	–	–
C. M. Grosier,	"	–	–	–	–	–	–	–	–
B. F. Lombard,	"	–	–	–	–	–	–	–	–
Wm. P. Doane,	Wellfleet,	–	–	–	–	–	–	–	–
L. W. White,	Westport,	–	1	2,549	–	1	2	–	–
John H. Waite,	"	–	–	3,055	–	–	–	–	–
Geo. R. Tripp,	"	–	–	1,300	–	–	–	–	–
Philip S. Tripp,	"	–	–	1,552	–	1	3	–	–
J. T. Lawton,	"	–	–	1,420	–	–	–	–	–
W. H. Allen,	South Westport,	–	2	2,044	–	–	20	–	–
J. J. Austin,	" "	–	139	2,537	–	8	23	–	–
A. F. Hilt,	" "	–	–	1,728	–	–	7	–	–
H. F. Crowell,	South Yarmouth,	–	–	69,000	–	–	–	–	–
D. S. Baker,	" "	–	9	–	4,706	–	4	–	–
P. P. Aiken,	" "	–	–	36,781	–	–	–	–	–
G. H. Baker,	" "	–	–	31,600	–	–	–	–	–
Totals (203),		1	6,342	1,840,359	1,049,430	4,019,834	1,980	2,289	1,141

TABLE I. — Concluded.

Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
-	-	-	-	-	-	-	-	-	1,830	-	-	-	-	-
-	-	-	-	-	-	-	100	-	200	-	-	-	-	-
-	-	-	-	-	-	-	785	-	210	-	-	-	-	-
-	-	-	-	-	-	-	250	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	760	-	-	-	-	-
-	-	-	-	-	-	-	-	-	4,279	-	-	-	-	-
-	-	-	-	-	-	-	1,725	-	-	-	-	-	-	-
-	-	-	-	-	-	1	61	-	1,271	-	-	-	-	-
-	-	-	-	-	-	-	6,500	-	500	-	-	-	-	64,100
-	-	-	-	-	-	-	-	-	244	-	-	-	-	-
-	-	-	-	-	-	-	-	-	1,258	-	-	-	-	-
-	-	-	-	-	-	-	-	-	317	-	-	-	-	-
-	-	-	-	-	-	-	4,394	-	3,344	-	21,990	-	-	-
-	-	-	-	-	-	-	-	-	1,073	-	-	-	-	-
-	-	-	-	-	-	-	14,530	-	11,322	-	-	-	-	-
-	-	-	-	-	-	-	-	-	4,157	-	2,550	-	-	-
-	-	-	-	-	-	1	-	-	1,261	-	-	-	-	-
-	-	98	-	-	-	-	333	-	594	-	-	-	-	-
-	-	-	-	-	-	-	268	-	1,338	-	-	-	-	-
-	-	-	-	-	-	-	73	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	667	-	-	-	-	-
-	-	-	-	-	1,800	-	-	-	941	-	-	-	-	-
-	-	-	-	-	-	-	300	-	300	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	749	-	-	-	-	-	-	-
-	-	-	-	-	-	-	965	-	-	-	-	-	-	-
-	-	-	-	-	-	-	256	-	-	-	-	-	-	-
-	-	-	-	-	-	-	907	-	-	-	-	-	-	-
-	-	-	-	-	-	-	1,050	-	-	-	-	-	-	333
-	-	-	-	1,200	-	-	1,000	-	-	-	-	-	-	10,000
-	-	65	-	-	1	-	720	-	9	-	-	-	26	-
-	-	-	-	3,200	-	-	11,500	-	-	-	-	-	-	9,000
-	-	1,640	-	-	-	-	7,208	-	-	-	-	-	-	-
-	-	-	-	-	-	-	1,608	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	1	-	9,155	-	-
-	-	-	7,500	-	-	-	-	-	-	-	-	16,075	-	795
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	900	-	-	-	-	444	-	-	-	-	-	-	-
-	-	328	-	-	3	-	573	-	-	-	-	-	3	-
-	-	-	-	-	-	-	275	-	2	-	-	-	-	-
-	-	-	-	-	-	-	100	-	-	-	-	-	-	-
-	-	3,085	-	-	-	-	826	-	-	-	-	-	-	-
-	-	-	-	-	-	-	623	-	-	-	-	-	-	-
-	-	-	-	-	-	-	111	-	-	-	-	-	-	-
-	-	-	-	-	-	-	29	-	-	-	-	-	-	-
-	-	75	-	-	-	-	297	-	2	-	-	-	-	-
-	-	-	-	-	-	-	664	-	-	-	-	-	-	-
-	-	-	-	10	-	-	205	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	3	-	-	-	110	-	-	-	320	-
-	-	-	-	-	-	-	-	-	65	-	-	-	-	-
-	-	-	-	145	-	-	222	-	986	-	596	-	-	153
-	-	260	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	1,093	-	-	-	-	-
-	-	-	-	-	-	-	28	-	396	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	1	1	19	-	158
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	333	-	-	-	-	-	-	-	57	64	-	-
-	-	-	-	-	-	-	-	-	-	-	-	15	-	163
-	-	-	90	-	-	-	-	-	-	-	-	-	-	-
-	-	-	540	-	-	-	-	-	-	-	-	8	-	-
-	-	-	-	-	-	-	-	-	-	-	30	4	-	711
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	513	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	330	110,608	8,535	54,382	1,263	14	210,353	1,488	181,401	754	30,444	93,609	3,770	153,448

TABLE II. — POUNDS AND WEIRS. — *Showing*

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.
J. H. Winslow,	Brewster,	-	-	57,415	-	-	-	-	-
Freeman Atwood,	"	-	452	-	-	-	165	-	-
James Eldredge,	"	-	52	-	-	-	18	-	-
Reed Loveland & Co.,	Chatham,	-	1,113	4,250	58,500	44,250	-	-	8
Andrew Harding & Co.,	"	-	5,809	6,350	42,750	-	-	-	-
Alpheus Mayo,	"	-	438	3,099	7,800	84,650	13	7,784	80
G. W. Crowell,	"	-	353	4,300	19,732	58,325	2	5,648	-
S. F. Bearse,	"	-	1,347	36,315	144,100	-	-	-	-
S. S. Ellis,	"	-	1,205	429	163,200	72,200	2	26	8
S. W. Gould & Co.,	"	-	740	3,287	96,200	229,235	13	244	47
R. Flanders & Co.,	Chilmark,	1	6	1,071	-	2,600	4	4,292	1,523
H. O. Pool & Co.,	"	-	4	2,275	11,200	114,086	2	46,957	10,573
Jason Luce & Co.,	"	-	-	-	-	-	-	16,448	921
Andrew R. Reed,	Dartmouth,	-	61	12,635	754	-	427	1,060	994
Waite & Smith,	"	-	49	46,158	433	4,726	655	3,156	1,163
C. H. & John Manchester,	"	-	257	600	440	25,850	-	877	1,626
Benjamin Queripel,	"	-	6	3,869	2,070	551	-	2,292	372
W. A. Gifford,	"	-	452	5,904	603	16,172	23	1,090	1,073
J. F. Briggs,	"	-	43	29,445	444	1,105	2,284	213	177
Geo. Priaulx,	So. Dartmouth,	-	1	7,478	1,082	15,322	19	5,246	1,776
Edward D. Howland,	"	-	19	4,482	-	4,114	-	1,788	3,519
Nicholas Priaulx,	"	-	127	10,573	4,396	14,364	-	9,202	1,131
W. F. Mathews,	"	-	7	7,209	79	4,253	36	2,479	486
G. A Snell,	"	-	124	54,161	761	13,020	133	8,613	1,650
Thatcher & Kelley,	Dennis,	-	657	22,985	3,030	6,755	11	133	13
Zenas H. Baker,	"	-	1,263	17,453	17,700	72,759	56	245	12
A. T. Chase,	"	-	1,853	-	-	-	-	-	-
William Crowell,	North Dennis,	-	-	-	-	-	-	-	-
Charles F. Hall,	" "	-	545	-	-	1,104	-	-	1
Alonzo Higgins,	Eastham,	-	-	-	-	-	-	-	-
Peter Higgins,	"	-	4	-	50	6,226	-	7	-
W. H. Nickerson,	"	-	-	-	12,350	-	-	-	-
W. T. Horton,	North Eastham,	-	-	-	-	-	-	-	-
John Rogers,	Falmouth,	-	22	204,000	-	448,218	-	29,164	2,167
Isaiah Spindell,	"	-	29	6,910	22	76,739	56	11,814	934
Peter Wainwright,	"	-	2	1,902	-	770	4	1,098	87
P. M. Stuart,	"	-	86	5,107	-	52,066	-	7,765	1,156
J. J. Veeder,	"	-	55	5,625	-	5,309	-	4,627	118
Arthur W. Allen,	Fall River,	-	-	-	71	-	31	2,450	1,000
J. P. Holmes,	Gosnold,	-	-	800	-	7,000	-	10,000	400
John Manley,	"	-	9	1,917	-	-	-	11,550	216
Peter B. Davis,	"	-	-	-	-	-	-	2,770	440
C. C. Allen,	"	-	106	366	866	6,857	-	13,601	31
Henry J. Allen,	"	-	-	-	-	-	-	2,385	1,865
Timothy Aiken,	"	-	-	-	-	7,500	-	5,994	-
C. C. Church,	"	-	61	6,050	-	1,275	39	30,131	314
A. B. Veeder,	"	-	76	14,160	-	-	-	35,500	2,775
F. A. Veeder & Co.,	"	-	29	1,575	-	850	2	55,150	1,149
Joseph Parsons,	Gloucester,	-	200	18,048	66,000	41,466	-	-	-
Bartimus Luce,	Gay Head,	-	3	270	350	87,449	16	20,879	407
Wm. L Pease & Co.,	" "	-	-	600	-	17,500	44	8,262	487
D. F. Weeks,	Harwich,	-	344	4,230	5,150	93,950	2	14,455	617
T. B. Baker & Co.,	"	-	719	4,825	-	100,000	-	1,920	1
Cyrus Nickerson,	South Harwich,	-	62	-	20,500	61,500	-	6,285	150
F. T. Lane,	Lanesville,	-	-	-	-	-	-	-	-
Byron P. Dunn,	Mattapoisett,	-	-	7,800	-	74	31	131	347
W. K. Perry,	"	-	-	692	73	2,103	7	166,207	503
A. B. Bowman,	"	-	-	600	-	500	6	45	200
J. G Heath & Co.,	Manchester,	-	25	2,000	535,400	364,000	100	-	-
Alphonso Tarr,	Magnolia,	-	1	9,400	234,030	310,300	3	72	-
T. R. Paine,	Provincetown,	-	186	-	120,000	9,800	-	-	-
E. T. Starr,	"	-	215	484	-	641	37	1,053	104
Solomon Bangs,	"	3	147	7,323	840,299	104,446	20	527	11
J. A. Lewis,	"	-	1,609	-	101,510	37,350	3	-	9
Henry J. Lewis,	"	-	-	-	29,400	-	24	-	-

the Catch of Each during the Year 1890.

Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
-	-	-	-	-	-	-	763	-	11,193	108	73	1,810	1,670	-
-	-	-	-	-	-	-	217	-	1,929	-	11	-	-	-
-	139	8,600	-	354	10	-	17,015	-	2	-	8,050	-	2,100	-
-	32	9,950	-	985	-	-	10,485	-	-	2	65	-	50,000	-
16	391	53,396	-	9	629	8	14,947	34	129	124	110	477	14,466	211,825
19	1,098	33,449	-	1	-	-	657	-	98	6	1,248	18	80,182	125
-	-	6,619	-	-	-	-	7,348	-	-	-	-	-	-	-
-	1	6,490	-	69	-	-	4,475	-	-	3	8,150	-	10,000	-
33	275	40,304	-	10	7	-	1,237	-	-	13	4,881	20	157,580	5
386	2,762	1,235	-	330	1,826	-	18	36	100	48	1,056	-	3,775	-
117	17,534	14,784	6,445	57	3,165	-	3,834	4	469	358	5,630	13	3,886	-
-	7,504	-	-	72	2,352	-	75	-	66	25	2,680	-	-	-
53	-	3,163	-	8	-	-	4	-	682	409	10,388	-	-	3,766
55	-	14,124	-	31	-	-	5	18	-	1,136	1,475	-	1,892	-
3	8	6,181	-	-	22	-	8	-	87	78	2,234	-	4,350	-
23	12	938	-	-	-	-	2	-	3	535	1,375	40	-	3,356
37	-	1	901	61	101	-	65	1	169	407	516	1	-	-
-	71	1,175	116	-	-	2	-	-	-	911	1,733	297	764	8
48	28	6,681	-	-	-	-	3,541	12	174	1,108	6,695	1,117	6,588	-
-	76	31,330	-	-	-	-	5,122	-	3,114	-	3,428	-	-	6,630
-	-	9,961	-	-	66	-	801	7	35	1,492	3,856	-	21,127	-
82	9	1,476	15	1	-	-	-	1	9	738	2,476	2,078	3,643	8,575
142	230	11,448	-	-	-	-	22	1	528	2,440	5,320	-	-	-
50	-	904	-	-	-	-	-	-	-	10	573	-	11,359	-
19	13	14,867	1	1	5	-	3	-	2,725	72	2,798	87	107,723	2,523
-	-	-	-	-	-	-	4,255	-	3,076	-	-	-	-	-
-	-	-	-	-	-	-	4,050	-	158	-	-	-	-	-
-	-	33	-	3	13	-	4,371	-	795	12	19	-	42,000	1
-	-	-	-	-	-	-	5,505	-	3,020	-	-	-	-	-
-	-	-	-	-	-	-	2,267	-	2,025	62	239	1	8,850	1
-	-	-	-	-	-	-	13,445	-	3,072	-	358	-	-	-
-	-	-	-	-	-	-	4,200	-	4,015	-	-	-	-	-
-	3,115	23,650	-	-	209	-	1,066	-	1,883	4,980	6,202	-	522	20,000
119	408	15,653	-	82	238	-	760	2	996	314	1,452	3	35,255	-
-	406	2,685	-	2	4	-	209	-	21	122	444	-	1,567	30
66	396	15,072	-	-	28	-	288	2	1,249	4,013	7,074	-	17,000	-
87	655	11,745	-	1	60	-	396	-	66	89	370	-	8,900	2,616
-	-	1,600	-	-	-	1	-	1	-	25	300	-	-	-
20	-	8,000	-	50	-	-	100	-	12	-	1,000	-	-	-
136	4,143	3,403	8,375	54	-	-	37	-	15	35	1,925	-	8,650	8,500
-	755	-	-	-	66	-	-	-	-	-	1,785	-	-	-
10	3,367	2,615	130	112	1	-	5	-	35	218	1,559	1	12,010	9,350
-	-	325	-	-	-	-	-	-	-	-	2,150	-	-	-
-	5,994	-	-	-	-	-	-	-	-	-	-	-	-	-
7	1,432	18,729	3,803	98	21	-	23	-	100	94	1,555	-	-	188,500
193	6,660	2,700	-	69	1,205	-	341	-	1,076	320	3,251	-	-	65,000
-	91	16,435	-	16	-	-	50	-	10	180	2,213	-	1,950	-
-	-	73,662	-	175	-	-	9,086	-	102	-	1,280	-	2,292	-
86	20,107	70,601	2,090	8	1,710	-	7,238	1	45	38	2,957	-	9,925	-
-	15,655	602	-	-	902	-	3,003	1	18	30	1,574	-	-	1
-	5,394	50,055	-	-	17	-	2,366	-	1,068	907	3,089	6	139,640	1,528
-	315	12,150	10	-	-	-	111	-	-	295	1,550	-	97,200	-
-	2,584	19,473	-	-	11	-	2,054	-	356	177	-	-	136,200	-
-	-	-	-	-	-	-	900	-	-	-	-	-	-	-
166	42	32	46	-	3	-	5	7	46	877	1,238	144	11,579	30
48	23	3,348	-	-	22	-	16	5	594	166	1,293	355	10,505	2,338
40	-	150	-	-	-	-	-	-	50	200	5,000	1,000	10,000	-
-	-	1,050	-	15	-	-	32,850	-	-	62	40	-	27,000	-
-	-	5,722	-	791	98	264	32,098	19	348	198	85	-	3,080	27,250
-	-	465	-	-	-	2	2,218	-	34	-	346	-	5,710	64,600
232	-	1,777	-	8	-	-	8,261	-	475	256	4,240	4	1,051	-
35	13	44,192	371	364	44	718	718,698	-	181	77	8,821	8	250,298	1
-	-	720	-	20	-	-	55,492	-	1,154	-	630	-	-	-
-	-	4,200	-	-	-	-	3,953	183	45	122	9,813	-	20,655	-

TABLE II. — Concluded.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.
W. H. Ellis,	Provincetown,	–	–	–	–	–	–	–	–
S. T. & L. Nickerson,	"	–	–	–	154,900	–	–	–	–
Crowell Brothers,	"	2	21	–	329,600	4,800	–	1	2
J. C. & E. Barnes,	Plymouth,	–	–	1,505	–	–	–	–	–
G. A. Phinney,	"	–	–	–	–	21,000	–	–	–
J. B. Parsons,	Rockport,	3	–	–	49,600	20,000	–	–	–
Thomas Neville,	Salem,	–	65	–	109,950	9,275	–	–	–
Wm. M. Vincent,	Tisbury,	–	–	–	–	1,200	4	443	48
O. S. Daggett,	"	–	90	–	12,600	11,417	224	12,114	734
R. A. Rich,	Truro,	4	173	–	52,602	13,351	–	4	–
Atkins Hughs,	"	–	162	–	419,450	29,200	–	–	–
Sylvester B. Atwood,	"	–	364	–	17,720	2,064	–	144	–
David Blatchford,	"	1	401	287,340	188,270	94,120	1	17	–
P. L. Paine,	North Truro,	–	330	2,003	95,226	1,647	19	124	24
S. F. Hardy,	South Truro,	–	–	–	65,190	16,000	–	–	–
O. D. Bradley,	Vineyard Haven,	–	10	276	–	1,075	12	5,218	111
C. B. Cleveland,	" "	–	–	46,050	–	16,500	–	–	429
Warren Newcomb,	Wellfleet,	–	–	205,942	–	–	–	–	–
N. B. Rich,	"	–	370	–	267,200	30,500	–	–	–
N. W. Rich,	"	–	–	–	123,600	–	–	–	–
James M. Soule,	Westport,	–	–	3,114	–	–	–	–	–
Frank B. Grinnell,	"	–	–	7,700	–	–	–	–	–
Albert Wilcox,	South Westport,	–	–	4,236	358	293	734	907	–
Totals (88),		14	22,961	1,198,561	4,432,690	2,911,970	5,302	354,423	43,989

TABLE II. — Concluded.

Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
–	–	–	–	–	–	–	1,068	455	–	–	–	–	–	–
26	–	1,000	–	–	–	–	3,460	–	72	–	–	–	–	–
–	–	8,000	–	–	–	45	4,112	17	87	–	–	–	56,900	108,279
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	15	5,385	427	–	–	–	–	–	110,200
–	–	510	–	293	–	–	8,576	–	204	–	203	–	–	–
–	–	6,140	–	–	25	–	7,052	–	413	–	–	–	–	–
17	353	1,266	9	3	937	–	–	5	37	21	337	–	1,895	–
300	2,517	2,466	293	154	1,859	–	342	–	466	864	9,864	–	1,093	960
–	–	4,120	–	35	254	196	9,548	–	2,013	153	4,078	–	13,155	7,250
–	–	–	–	–	38	1,495	186,392	–	1,893	–	2,127	–	77,700	–
37	2	4,748	–	25	390	252	10,233	–	575	143	7,862	2	70,200	18,500
2	–	25,972	–	2,986	4	66	22,390	–	3,323	53	2,658	–	104,685	68,590
119	–	8,494	–	187	319	306	27,039	–	2,155	290	5,543	1	48,021	91
–	–	–	–	65	1	–	5,972	–	757	–	350	–	1,500	–
–	–	2,589	352	–	66	–	–	–	1	78	10,080	220	5,245	6,630
–	–	–	–	–	1,997	–	–	–	–	–	12,470	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	44,000	–	906	6	1	10,108	–	992	90	164	–	13,500	4,000
–	–	–	–	–	–	–	3,817	–	–	–	6,000	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	1,389
–	50	–	880	–	–	–	–	–	–	–	–	756	–	8,200
–	–	–	–	–	–	–	–	–	–	–	97	121	–	–
2,819	100,680	834,935	23,847	7,666	16,732	3,321	1,297,264	1,242	60,633	25,637	210,476	9,180	1,630,388	958,872

TABLE III.—*Comparison of Returns for the Years 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889 and 1890.*

YEAR.	FISHERIES. Kind.	No.	Shad.	Alewives.	Sea Herring.	Menhaden	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
1882,	Pounds and weirs,	85	27,769	1,420,919	1,201,449	8,102	4,219	1,991,480	67,266	3,289,512	310	133,805	40,512	114,843	4,016	-
1883,	" "	87	5,994	1,250,263	339,116	4,048,022	2,876	1,848,583	92,671	4,756,490	246	60,182	35,481	184,387	5,361	-
1884,	" "	93	5,392	715,886	2,806,203	308,381	6,950	1,641,129	74,826	1,440,486	99	109,694	23,929	288,930	33,980	-
1885,	" "	80	18,088	1,066,148	6,564,619	6,255	1,365	1,240,630	17,746	2,643,190	24	32,575	47,231	317,082	7,741	128,698
1886,	" "	58	15,874	1,012,802	1,364,684	48,910	2,412	1,966,243	3,226	1,290,466	20	17,315	47,490	261,595	11,570	572,334
1887,	" "	62	14,044	1,453,820	1,713,846	127,951	1,233	2,153,504	15,742	1,069,609	109	44,204	89,075	304,492	7,615	812,810
1888,	" "	83	50,057	1,054,607	6,665,698	1,202,777	2,455	1,448,451	127,602	2,877,768	115	38,376	63,214	358,917	10,805	2,716,892
1889,	" "	103	25,591	1,417,950	17,000,308	1,203,669	4,924	1,331,673	36,043	825,152	524	17,287	69,719	289,993	20,163	1,859,924
1890,	" "	88	22,961	1,198,561	4,432,690	2,911,970	5,302	354,423	43,988	1,297,264	1,242	60,633	25,637	210,476	9,180	958,872
1888,	Traps, fykes and irregular returns,	8	-	5,150	252,685	7,750	-	-	-	288,466	-	-	-	3,123	3,544	-
1889,	Traps, fykes and irregular returns,	15	2,994	89,516	1,212,942	184,239	64	86	54	64,938	13	2,690	339	2,246	2,060	76,073
1882,	Gill nets and sea seines,	133	1,738	424,630	310,611	633	1,427	99,046	4,205	587,087	87	191,668	6,245	33,487	3,033	-
1883,	" "	112	26	41,996	79,689	937,627	838	6,254	1,102	392,535	4	131,815	966	12,681	1,755	-
1884,	" "	85	6,544	67,312	541,689	1,526	632	7,855	3,254	216,829	6	136,068	1,578	19,031	2,426	-
1885,	" "	78	444	117,674	82,151	9,546	601	26,854	1,656	183,156	1	101,371	233	30,948	967	5,454
1886,	" "	49	22	397,727	151,782	311	1,524	13,019	42	75,463	9	32,343	1,039	14,592	21,670	17,326
1887,	" "	35	801	347,109	779,211	57	601	676	2,586	177,401	3	22,018	457	14,206	30,416	4,708
1888,	" "	142	92,010	468,934	734,374	94,310	1,349	7,704	2,027	633,627	2,172	199,546	1,314	30,738	18,701	52,049
1889,	" "	208	4,533	401,445	357,054	202,094	1,421	4,062	4,545	271,017	157	55,718	2,576	35,745	199,360	80,008
1890,	" "	183	1,448	174,213	686,948	239,474	1,980	2,289	1,141	209,863	1,488	181,401	754	29,950	81,979	94,448
1882,	Connecticut River seines,	3	2,770	-	-	-	-	-	-	-	-	-	-	-	-	-
1883,	" " "	4	3,591	-	-	-	-	-	-	-	-	-	-	-	-	-
1884,	" " "	2	1,593	-	-	-	-	-	-	-	-	-	-	-	-	-
1885,	" " "	1	1,718	-	-	-	-	-	-	-	-	-	-	-	-	-
1886,	" " "	1	577	-	-	-	-	-	-	-	-	-	-	-	-	-
1887,	" " "	1	850	-	-	-	-	-	-	-	-	-	-	-	-	-
1888,	" " "	1	824	-	-	-	-	-	-	-	-	-	-	-	-	-
1889,	" " "	1	796	-	-	-	-	-	-	-	-	-	-	-	-	-
1890,	" " "	1	58	-	-	-	-	-	-	-	-	-	-	-	-	-
1882,	Merrimac River seines,	4	387	2,800	-	-	-	-	-	-	-	-	-	-	-	-
1883,	" " "	2	146	-	-	-	-	-	-	-	-	-	-	-	-	-
1884,	" " "	2	111	-	-	-	-	-	-	-	-	-	-	-	-	-
1885,	" " "	2	130	-	-	-	-	-	-	-	-	-	-	-	-	-
1886,	" " "	1	73	-	-	-	-	-	-	-	-	-	-	-	-	-
1887,	" " "	1	28	-	-	-	-	-	-	-	-	-	-	-	-	-
1888,	" " "	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1889,	" " "	5	18	162,600	1,348,855	2,736,350	-	-	-	-	-	-	-	-	-	-
1890,	" " "	6	-	57,755	362,482	3,780,360	-	-	-	490	-	-	-	188	11,630	59,000

1882,	Taunton River seines,	11	11,173	1,039,272	–	–	44	–	–	–	–	–	–	–	–	–	–
1883,	" " "	11	5,012	1,123,473	–	–	294	–	–	–	–	–	–	–	–	–	–
1884,	" " "	10	4,037	959,736	–	–	429	–	–	–	–	–	–	–	–	–	–
1885,	" " "	10	4,964	1,267,479	–	–	15	–	–	–	–	–	–	–	–	–	–
1886,	" " "	8	2,620	962,690	–	–	–	–	–	–	–	–	–	–	–	–	700
1887,	" " "	8	4,550	863,278	–	–	–	–	–	–	–	–	–	–	–	–	–
1888,	" " "	10	6,353	902,619	–	–	–	–	–	–	–	–	–	–	–	–	–
1889,	" " "	13	7,329	1,033,417	–	–	–	–	–	–	–	–	–	–	–	–	–
1890,	" " "	10	4,836	870,081	–	–	–	–	–	–	–	–	–	–	–	–	–
1882,	Other fresh-water seines,	25	897	1,558,659	–	–	234	–	–	–	–	–	–	–	–	–	–
1883,	" " "	23	391	1,762,950	–	–	1,072	–	–	–	–	–	–	–	–	–	–
1884,	" " "	13	22	610,847	–	–	897	–	–	–	–	–	–	–	–	–	–
1885,	" " "	13	3	1,296,449	–	–	–	–	–	–	–	–	–	–	–	–	–
1886,	" " "	7	300	797,365	–	–	–	–	–	–	–	–	–	–	25,275	–	–
1887,	" " "	5	–	454,409	–	–	–	–	–	–	–	–	–	–	11,520	–	–
1888,	" " "	19	6	1,026,042	–	–	4	–	–	–	–	–	–	1,053	6,068	–	–
1889,	" " "	8	–	513,001	–	–	–	–	–	–	–	–	–	–	–	–	–
1890,	" " "	6	–	738,310	–	–	–	–	–	–	–	–	–	–	–	–	–
1882,	Total returns,	261	44,734	4,446,280	1,512,060	8,735	5,929	2,090,526	71,471	3,876,599	397	325,473	46,757	148,330	7,049	–	
1883,	" "	239	15,160	4,178,682	418,805	4,985,649	5,080	1,854,837	93,773	5,149,025	250	191,997	36,807	197,068	7,116	–	
1884,	" "	205	17,699	2,353,781	3,347,892	309,907	7,582	1,648,984	78,080	1,657,315	105	245,762	30,507	307,971	36,406	–	
1885,	" "	184	25,347	3,747,750	6,546,770	15,801	1,881	1,267,484	19,402	2,826,346	25	133,946	47,464	348,030	8,708	134,152	
1886,	" "	124	19,466	3,183,741	1,520,466	49,221	3,936	1,979,262	3,268	1,395,850	29	55,031	48,678	276,187	58,872	590,659	
1887,	" "	112	19,292	3,108,642	2,345,632	97,510	1,833	2,144,973	18,357	1,057,565	112	66,422	89,065	320,220	50,071	818,639	
1888,	" "	264	149,200	3,767,929	7,669,493	1,556,036	3,275	1,672,610	129,850	3,801,393	2,489	240,874	70,523	432,710	40,634	2,875,420	
1889,	" "	352	40,461	3,617,929	19,919,159	4,326,352	6,414	1,335,821	40,642	1,161,107	694	75,695	72,634	327,984	221,583	2,015,993	
1890,	" "	291	29,303	3,038,920	5,482,120	6,931,804	7,282	356,712	45,130	1,507,617	2,730	242,034	26,391	240,920	102,789	1,112,320	
	Increase of 1885 over 1884,	–	7,648	1,393,969	3,198,878	–	–	–	–	1,169,031	–	–	16,957	40,059	–	–	
	Decrease of 1885 below 1884,	21	–	–	–	294,106	5,701	381,500	58,678	–	80	111,816	–	–	27,698	–	
	Increase of 1886 over 1885,	–	–	–	–	33,420	2,005	711,778	–	–	4	–	1,214	–	50,164	456,507	
	Decrease of 1886 below 1885,	60	5,881	564,009	5,026,304	–	–	–	16,134	1,430,496	–	78,915	–	71,843	–	–	
	Increase of 1887 over 1886,	–	–	–	825,166	48,289	–	165,711	15,089	–	83	11,391	40,387	44,033	–	227,980	
	Decrease of 1887 below 1886,	12	174	75,099	–	–	2,103	–	–	338,285	–	–	–	–	8,801	–	
	Increase of 1888 over 1887,	152	129,908	642,287	5,323,861	1,438,526	1,442	–	111,493	2,743,828	2,377	174,452	–	112,490	–	2,556,781	
	Decrease of 1888 below 1887,	–	–	–	–	–	–	472,363	–	–	–	–	18,542	–	9,437	–	
	Increase of 1889 over 1888,	88	–	–	12,249,666	2,790,316	3,139	–	–	–	–	–	2,111	–	180,949	–	
	Decrease of 1889 below 1888,	–	108,739	150,000	–	–	–	336,789	89,208	2,640,286	1,795	165,179	–	104,726	–	859,427	
	Increase of 1890 over 1889,	–	–	–	–	2,605,452	868	–	4,488	346,510	2,036	166,339	–	–	–	–	
	Decrease of 1890 below 1889,	61	11,168	579,009	14,437,039	–	–	979,109	–	–	–	–	46,243	87,064	118,794	903,673	

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REPORT OF THE COMMISSIONERS

ON

INLAND FISHERIES AND GAME

FOR THE

YEAR ENDING DECEMBER 31, 1891.

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Commonwealth of Massachusetts.

To His Excellency the Governor and Honorable Council.

The Commissioners on Inland Fisheries and Game beg leave to present their twenty-sixth annual report.

Fishways.

All the fishways are, so far as is known, in good working order. The one at Lawrence will require some repairs next season. Mr. Holmes, who has charge of this fishway, reports that the black bass are rapidly increasing in both the Merrimac and the Concord. They have found their way into the upper part of the Merrimac from ponds and lakes in New Hampshire, and into the lower part from the Concord River. While the number of salmon reported as seen in the fishway is not as large as last year, the number taken at Plymouth, N. H , for the purpose of securing spawn, is much larger.

Fish seen in the Lawrence Fishway in the Year 1891.

Apr. 25 to May 5. Suckers, run small.

May 6 to 11. Suckers, run small; a few alewives.

12 to 20. Suckers and lampreys, run small; a few alewives.

21 to June 1. Suckers and lampreys, run moderate; a few alewives.

June 2 to 11. Suckers, run moderate; lampreys, run large; alewives, run small.

12. Flashboards were set on the south end of the dam this afternoon, causing the water to fall below the end of the fishway. The following fish were seen in the fishway about an hour after the boards were set: one salmon, 10 pounds; lampreys, run very large, the fishway crowded with them.

13. Two salmon, 8 to 12 pounds; lampreys, run very large; suckers and alewives, run small.

14. Three salmon, 10 to 14 pounds; lampreys, run very large; suckers, run small.

June 15. Three salmon, 10 to 16 pounds; lampreys, run moderate; suckers, run small.
16. Three salmon, 12 to 14 pounds; lampreys, run moderate; a few suckers and chubs.
17. Lampreys and suckers, run small.
18. One salmon, 8 pounds; lampreys, run small.
19. Lampreys, run small; a few small silver eels.
20. One salmon, 10 pounds; lampreys, run small.
21 and 22. A few lampreys, suckers and small silver eels.
23. Eleven salmon, 8 to 16 pounds; a few suckers and silver eels.
24. Eight salmon, 10 to 14 pounds; a few suckers and silver eels.
25. Six salmon, 10 to 14 pounds; a few suckers and silver eels.
26. Nine salmon, 10 to 16 pounds; a few suckers and silver eels.
27. Six salmon, 10 to 14 pounds; a few suckers and silver eels.
28. Three salmon, 10 to 14 pounds; a few suckers and silver eels.
29. A few suckers, chubs and silver eels.
30. Two salmon, 10 to 12 pounds; a few suckers and silver eels.

July 1 and 2. A few suckers, chubs and silver eels.
3. Two salmon, 8 to 12 pounds; a few suckers and silver eels.
4. A few suckers, chubs and silver eels.
5. One salmon, 10 pounds; a few suckers and silver eels.
6 to 8. Silver eels, run moderate; a few suckers.
9. One salmon, 12 pounds; silver eels, run moderate; a few suckers.
10 and 11. Silver eels, run moderate; a few suckers.
12. Two salmon, 10 to 12 pounds; silver eels, run moderate; a few suckers.
13 to 17. Silver eels, run moderate; a few suckers.
18. Two black bass; silver eels, run moderate; a few suckers and chubs.
19. Two black bass; silver eels, run moderate; a few suckers.
20. One black bass; silver eels, suckers and chubs, run small.
21 to 24. Silver eels, run small; a few suckers.
25. One black bass; silver eels, run small.
26. One black bass; silver eels, run small.
27. to 30. Silver eels, run small; a few suckers.
31. One salmon, 10 pounds; a few silver eels.

Aug. 1 to 7. Silver eels, run small; a few suckers and chubs.
8. One black bass; silver eels, run small.
9. Two black bass; silver eels, run small.
10 to 14. Silver eels, run small; a few suckers.
15. Two black bass; silver eels, run small.
16. One black bass; silver eels, run small.
17 to 31. Silver eels, run small; a few suckers and chubs.

Sept. 1. One black bass; a few silver eels and suckers.
2. Six black bass; a few silver eels and suckers.
3. Eight black bass; a few silver eels and suckers.
4. Four black bass; a few silver eels and suckers.
5. Four black bass; a few silver eels and suckers.

Sept. 6 to 21. A few suckers all the fish that were present; water shut out of fishway on the 21st; river very low; water in the fishway September 27th, but no fish present; water shut out again on the morning of September 28, and has remained out to this date (November 12); river very low.

THOMAS S. HOLMES,
In Charge of Lawrence Fishway.

CARP.

There seems to be very little interest taken in the culture of carp in this State. Only five applications were received this year; all of the applicants were well supplied with good, healthy fish.

TROUT.

Massachusetts' share of trout eggs from the joint State hatchery at Plymouth, N. H., for 1891, was 501,000. Of this number, 75,000 were sent to the hatchery at Northampton, to be hatched and distributed in that county. By report we are informed that the fry were successfully hatched and distributed in the streams of Hampshire County. The balance, 426,000, were sent to the State hatchery at Winchester, and hatched, under the care of one of the commissioners, with a loss of less than four per cent. In addition to the above, we purchased 200,000 eggs.

We were able to distribute about 580,000 young trout over the State. They were a fine lot of remarkably healthy fish, and were planted with a loss of less than one per cent. in transportation. The returns from persons receiving them show that they were planted according to directions, and that such planting, where it has been continued for two or three years, has proved very satisfactory. In some instances where three years ago they took one good-sized trout they now can take twenty.

The commissioners have not been able to supply the demand for trout fry, and consequently some of the applicants who asked too late were necessarily disappointed because of a complete distribution before their applications were received; and some applications were necessarily refused because they came in too large numbers from contiguous territory. The rule is to divide the number of fish

by the number of applications received before the first of April, thus giving to each applicant an equal share. The only variations from this arrangement arise, first, from the fact that every year some applicants fail to come for their fry when notified; and, second, when there are too many applicants from the same locality. The commissioners desire to distribute the fish as equitably, all things considered, as possible over the State.

The trout are delivered free at the hatchery, Winchester, and cans are supplied for transportation. They cannot be kept in the troughs beyond a certain time, and, if parties fail to come for them when notified, it interferes seriously with the arrangements for distribution.

The hatchery at Plymouth, N. H., is being run to nearly its full capacity; and, until the hatchery now being built at Sutton, Worcester County, is completed and stocked, the only chance for increasing the number of trout for distribution is to purchase eggs from private parties who engage in this business.

We expect to have about 500,000 young trout for distribution next April and May.

The following is the list of persons to whom the trout were delivered in the spring of 1891: —

Brook Trout Delivered, Spring of 1891.

Barnstable County.

Robert Armstrong, East Sandwich.
J. L. Wesson, East Sandwich.
A. S. Backus, Barnstable.
C. A. Cahoon, Brewster.
J. F. Tobey, Harwich and Chatham.
J. A. Loring, Sandwich.
Chas. B. Corey, Hyannis.
Richard O. Harding, Hyannis.

Bristol County.

Geo. H. Herrick, Attleborough.
Sam'l R. Bennett, Dartmouth.
J. L. Humphrey, East Freetown.
Wm. J. Luther, No. Attleborough.
Wm. N. Weeden, Westport.
Dr. Chas. Copeland, So. Somerset.

Plymouth County.

J. G. Dexter, Rochester.
A. Savary, Agawam Neck.
J. H. Burgess, East Wareham.
E. Thomas, Rock.
L. O. Atwood, Rock.
E. Finney, Chiltonville.
J. Collingwood, Plymouth.
Geo. W. Randall, South Plympton.
B. G. Cohoon, South Marshfield.
W. D. Baker, South Marshfield.
H. B. Chandler, Kingston.
Wm. J. Wright, Duxbury.
J. W. Swift, Duxbury.
E. E Chandler, Duxbury.
Geo W. Wright, Duxbury.
A. W. Nickerson, Marion.

Brook Trout delivered, etc. — Continued.

Norfolk County.

Joseph Guild, Dedham.
W. D. Carpenter, Foxborough.
A. C. Pratt, Weymouth.
G. A. Carpenter, Foxborough.
I. W. Lane, Foxborough.
F. R. Shattuck, Medfield.
A. D. Thayer, Franklin.
H. W. Thayer, Franklin.
E. Brooks, Milton.
A N. Clark, Walpole.
H. S Howard, Randolph.
Edw. Knobel, Dedham.
E. B. Nevin, Weymouth.
J. C. Lane, Norwood.
H. C. Metcalf, Walpole.
H. B. Endicott, Dedham.
C. A. Bigelow, Wellesley.
A. E. Peck, Franklin.

Suffolk County.

W. E. Cox, Jamaica Plain.
J. R. Downing, Brighton.

Essex County.

J. O. Wardwell, Haverhill.
J. O. Parker, Methuen.
Rob't Baker, Manchester.
R. K. Sears, Danvers.
H. E. Raymond, Peabody.
J. C. Haskell, Lynn.
E. J. Thompson, Lynn.
A. L. Clark, Ipswich.
Chas. Greene, Andover.
A. B. Clark, Peabody.
Benj. Lane, Lynn.
W. R. Rowell, Methuen.

Middlesex County.

E. F. Marble, Ashby.
Rolfe Bradbury, Westford.
C. O. Hall, East Dracut.
Geo. H. Holt, West Chelmsford.
Geo. L. Lawson, Westford.
Geo. F. Lawson, Dunstable.
J. H. Hall, Westford.
F. E. Stewartson, Chelmsford.

Middlesex County — Concluded.

F. H. Lynde, Billerica.
Thos. Bixby, Townsend.
Geo. R. Williams, Townsend.
H. G. Nichols, Newton.
W. K. Rice, Wayland.
Geo. W. Morse, Newtonville.
C. H. Barber, Framingham.
L. S Brigham, Sudbury.
F. A. Hartwell, Lexington.
C. A. Jones, Woburn.
J. H. Woodford, Newton.
W. N. Lockwood, Lexington.
Holmes & Nichols, Lincoln.
Thos F. Nulter, Wakefield.
G. H. Cushman, Sudbury.
R. G. Marshall, Sudbury.
E H. Richards, Burlington.
J. H Loring, Concord
E. W Clark, Tyngsboro.
J. W. Huntoon, Tyngsboro.
W. H Hill, Bedford.
Winchester Water Board, Winchester.

Worcester County.

John Day, Sturbridge.
E. R. Moulton, Fiskdale
C. V Dudley, Northbridge.
H. T. Whiten, Northbridge.
D. M. Earle, Worcester.
A. E. Estabrook, Leicester.
H S. Seeley, Shrewsbury.
Geo. McAleer, Worcester.
Geo W. Wells, Worcester
Geo. H. Rugg, Grafton
J. W. Fairbanks, Westborough.
W. T Bowers, Lunenburg.
Sydney Harrocks, Westminster.
Rodney Wallace, Ashburnham.
Geo. R. Wallace, Ashburnham.
H. I. Wallace, Ashburnham.
H O Adams, Shrewsbury.
C. W. Bates, Phillipston.
M. D. Peckham, New Braintree.
J T. Whitcomb, Phillipston.
Wm. Lawrence, Shrewsbury.
L G. Pitts, Holden.

Brook Trout delivered, etc. — Concluded.

Worcester County — Concluded.

Wm. H. Gibbs, Clinton.
W. H. Clark, Auburn.
F. W. Aldrich, Fitchburg.
Wm. R. Albertson, Old Boylston.
Chas. B. Pratt, Shrewsbury.
John Barnes, Petersham.
J. E. Kellogg, Fitchburg.
H. P. Kendall, Sterling.
J. F. Bruso, Worcester.
A. Taylor, Lunenburg.
A. J. Bartlett, Winchendon.
Green & Ladd, Brookfield.
S. A. Howes, Templeton.
L. G. McKnight, Gardner.

Hampden County.

J. W. Anderson, Monson.
E. T. Stevens, Palmer
J. A. Murphy, Springfield.
E. J. Foster, Springfield.
R. H. Merritt, Springfield.
Thos. N. Birnie, West Springfield.
H.H Patten, Hampden and Monson.
H. E. Sheldon, West Springfield.
E. K Bodurtha, Agawam.
Joseph Orr, Chicopee.
J. P. Woodworth, Chicopee.
L. T. Averill, Agawam.
R W. Day, Springfield.

Hampden County — Concluded.

C. W. Skiff, Westfield.
R. E. Cooper, Westfield.
H. H. Brigham, Westfield.
D. H. Wetherell, Westfield.
F. C. Davis, East Longmeadow.
C. B. Butler, Southwick.

Franklin County.

E. L. Stockwell, Wendell and Montague.
Silas P. Cook, Gill.
N. S. Cutler, Greenfield.
J. A. Hawkes, Deerfield.
C. G. Clapp, Deerfield.

Hampshire County.

E. H. Vaughn, Prescott.
E. A. Atkins, Plainfield.
C M. Pettingill, Cummington
Frank M. Sibley, Ware.

Berkshire County.

Donald Birnie, Beckett.
H. M. Wilbur, Adams.
T. W. Richmond, North Adams
J. W. Bullock, Williamstown.
C. J. Whiting, Clarksburg.
F. S. Rice, Florida.
I. H. Wood, Pittsfield.

Salmon in the Merrimac.

The water in the Merrimac fell off very early in the season, and has continued low. In consequence of this drouth, the summer run of salmon was impeded in their passage up the river to the spawning grounds, and the fall run was entirely cut off. Notwithstanding these drawbacks, the increase of salmon in this river was maintained.

It has been stated as a fact in the Colonial history of the Merrimac, that the salmon belonging to this river were never known to take a fly. Whether this is true or not is a matter of but little consequence to the fly-fisherman, for the original stock belonging to the river were all killed out soon after the erection of the Lawrence dam, and the present

stock were bred from the Penobscot salmon, which are well known to sportsmen.

It will be seen, by the following report of Commissioner E. B. Hodge, superintendent of the joint hatchery at Plymouth, that many salmon are reported as taken with hook and line below Manchester. This, together with the fact that during their run up the river salmon are seen at North Andover, near the mouth of the Shawsheen, and in pools below the rapids at several points on the river, breaking water and apparently feeding on small flies, is strong evidence that they may be taken with artificial bait. We look forward to the time when the salmon fishermen will resort to this river the same as they now do to the Penobscot and more northern rivers for this delightful sport.

To the Commissioners on Inland Fisheries for the Commonwealth of Massachusetts.

Gentlemen : — I have the honor herewith to submit my annual report of the joint work done at this station for the year ending Dec. 1, 1891.

February 20 I received from Bucksport, Me., 132,000 eggs of the Penobscot salmon (*Salmo salar*). These eggs were furnished by the State of Massachusetts. Owing to the limited number of salmon taken at the Bucksport station by the United States Fish Commissioner, no eggs were allotted to New Hampshire or Massachusetts by that body ; and the plant made in the headwaters of the Merrimac consisted of 200,000 fry hatched from eggs taken from native Merrimac River salmon, and the 132,000 received from Bucksport. These were all planted in the Pemegewasset River, most of them from one to twenty miles above Livermore Falls. The plant was made without any loss, and before the fry were ready to take food. As soon at the yolk sac was absorbed, these young fish were in places where they could find their natural food, which is far better adapted to their wants than anything that can be supplied artificially.

As was expected, there was a large increase of the salmon in the Merrimac this season. They were seen in large numbers at Manchester and nearly all the tributaries above there ; but, owing to the low water, only the early run reached the station here. Twenty-three were taken in one day ; seventy-five were secured in all. In weight they varied from six to thirty pounds, but they would only average from eight to ten pounds ; as usual, more

males than females were taken. A large number of salmon passed the fishway at Manchester that did not reach here, and must have spawned in the river below. Many salmon are reported to have been taken with hook and line below Manchester, and in June some were speared in the tributaries above. As soon as known, this was stopped by the New Hampshire commissioners.

Over 1,000,000 brook-trout eggs were taken. Of these, 75,000 were sent to Mr. Dana Parsons at Northampton, Mass., and 426,000 to Commissioner E. A. Brackett at Winchester. The remainder were retained at the hatchery for New Hampshire.

A serious loss occurred this season from fish spawning in July and August, when there were no ripe males. The first eggs were placed in the hatchery September 3, and there are over 1,000,000 now laid down. Twelve hundred and fifty-one small wild trout have been added to the stock of breeding trout this season. As the average life of brook trout in confinement is only from eight to nine years, it requires constant additions to make up the losses caused by the death of the old fish. Two new ponds have been constructed, and all necessary repairs made.

This State has suffered from a severe drouth during the past few months, but the water supply remains the same as usual.

Respectfully yours,

E. B. Hodge, *Superintendent.*

Lobsters.

In 1869, at a hearing before a legislative committee on fish and game, for the purpose of discussing the question of a close season on lobsters, the fishermen claimed that they spawned every month in the year. Our investigations have shown this to be correct, but not in the sense which the fishermen claimed for it. Such spawning is an exception to the general rule, for the bulk of the spawn is deposited in June, July and August. While engaged in hatching lobsters in April, 1889, some facts were discovered leading to the conclusion that lobster eggs did not hatch in the winter time. To verify this, egg-bearing lobsters were secured in the fall, and kept in cars until spring. The temperature of the water was taken every day, and a few eggs were sent to Professor Garman, at Cambridge, every two weeks, for microscopic examination. It was found that little or no progress was made in the development of the embryo, until the water reached a temperature of 50° F., and no eggs

were hatched until the water rose to 55°. These experiments have demonstrated the fact that, no matter at what time the eggs are deposited on the swimmerets, they require a certain degree of warmth to mature them. It is doubtful whether, if hatched below this temperature, they would find the animalculæ necessary for their food.

Our experiments in hatching lobsters showed that, with proper arrangements, it was easy to hatch them by millions, but such an arrangement would require a hatching house, with machinery for lifting the water so that there would be a constant flow over the eggs; and that they could be kept in confinement from four to eight days, according to the temperature of the water, after which they either destroyed each other or died of starvation. No efforts yet made to feed them have succeeded; and, however successful one may be in hatching them, they should be let loose, at once, to take their chances in the open sea.

Egg-bearing lobsters, put in boxes properly prepared and floated in sheltered places, demonstrated the fact that there were no unimpregnated eggs. All hatched at about the same time. Whether they are impregnated before or after the eggs are laid has not yet been positively determined.

Our experience leads to the conclusion that the best method of stocking is to plant egg-bearing lobsters in suitable places. The importance of maintaining and increasing, as far as possible, these fisheries, cannot be overestimated. They give employment to several hundred men, and yield an annual income of more than half a million dollars. Probably the loss of no one product of the sea would be more severely felt than that of this valuable crustacean.

The almost total destruction of the lobsters in some of the States, and their rapid decrease in our own waters, created an alarm that resulted in the enactment of laws for their protection, and a demand that these laws should be strongly enforced. This duty was put upon the Commissioners of Fisheries and Game. It is one thing to pass laws, but quite another thing to enforce them. *Laws never enforce themselves.* After some experience and a more comprehensive study of the nature of the work and the extensive coast to be looked after, we informed the Legislature that it was

impossible to carry out their instructions with the means at our disposal. After a full statement of the facts to the various committees before whom we were summoned, the Legislature voted unanimously to authorize us to purchase a suitable steamer for the protection of the coast fisheries, which was immediately done. With two years' experience in which a very thorough investigation of the coast fisheries has been carried on, we are of the opinion that, if the State is to maintain its fisheries, no more economical appropriation could have been made. It has enabled us to protect Buzzard's Bay from the depredations of menhaden fishermen, as well as to break up, to a great extent, the traffic in short and egg-bearing lobsters, carried on in vessels from New York, New London and elsewhere out of the State. The captains of these vessels come into our waters and encourage the fishermen to violate the laws by sinking cars in out-of-the-way places, full of short and egg-bearing lobsters, to be taken aboard the vessels at the last moment, and at times when there is no one to overhaul them before they can get beyond the three-miles limit. More than fourteen thousand were found by Captain Proctor in sunken cars, and liberated in depleted places. Some of these captains were taken from their vessels, prosecuted, and fined. They make their principal profit from the sale of short lobsters, paying the fishermen only two or three cents each for anything under ten and one-half inches. It does not pay them to confine their trade to the lawful lobster. It follows that, if this traffic can be entirely broken up, the lawful lobster will find a market at home, instead of being sent out of the State.

Under the directions of the commissioners, Captain Proctor has planted in waters along the coast, in places where the lobsters were more or less depleted, over 138,000,000 lobster eggs.

No law in the State has been more thoroughly enforced than that for the protection of the lobster.

We append Captain Proctor's report: —

Commissioners on Inland Fisheries and Game.

Gentlemen: — As district police officer detailed for the use of the commission, I respectfully submit the following report.

I have sent blanks to the fishermen as in former years, and find that, unless some action is taken against the delinquents, it is impossible to get full returns.

I have patrolled the coast during the summer months in the State steamer "Ocean Gem," starting on the eighteenth day of May and stopping on the second day of October.

Lobster smacks began to come from New York about the 7th of May, with the intention of taking lobsters from our waters, whether large, small or egg-bearing; and they kept me busy looking after them during the entire season. I arrested several of the captains, and obtained convictions in every case. Some of the fishermen continued to catch and secrete the small and egg-bearing lobsters by sinking them in contrivances made for that purpose, in hopes to smuggle them on board some vessel bound for New York. I found 14,017 of these lobsters and planted them in places where the catch had been depleted. I also distributed 138,680,000 eggs along the coast, which have become lobsters before this time.

A portion of the fishermen seem determined to injure themselves and everybody else by violating the law; and they tell me that small lobsters are so plenty that they fill their traps, and they are obliged to handle the same lobsters several times, and that it is hard to resist the temptation to keep them. They fear, if they throw them overboard, that somebody will catch and dispose of them. About a dozen years ago the fishermen, when constructing their traps, would place a wide lath between every two that were nailed to the bows, leaving a uniform space the width of a lath, so that the very small lobsters would not remain in the traps. But as they began to grow scarce, and raw lobster was introduced into the market, they put the laths nearer together each year, until now they can catch lobsters that are not over five or six inches in length. A few of the fishermen are inclined to ruin their own business, making it so that a conscientious, law-abiding citizen does not have an equal chance, and dare not complain of his reckless neighbor for fear that his traps will be injured. There should be a law regulating the space between the laths or sticks of which a lobster trap is constructed, making it wide enough to allow lobsters measuring less than ten and one-half inches in length to escape. The fishermen who allege that they are bothered by these little lobsters, would be benefited, the law could be strictly enforced, and an honest man would have an equal chance.

The first menhaden were seen in Buzzard's Bay, about the twentieth of May, and remained there until October. During the summer the small bays and estuaries were alive with young men-

haden, about an inch in length, and these same fish grew before they left the bay to be about three inches in length. The wholesale slaughter of menhaden has been stopped in this bay, and it should be the same all along the New England coast. The menhaden are natural food for larger fish, and should be preserved to be used for bait by our fishermen; and said fishermen should be allowed to catch them at all times, wherever they can find them, and not be obliged at times to go without proper bait because the menhaden have all gone to the oil factory, for the benefit of a few wealthy men who belong in another State.

I have had several complaints on the smelt and game laws, but, as I could be in only one place at a time, I was obliged to neglect some of them to attend to other business.

I have made seventeen arrests, and convicted sixteen of the defendants. The other one was discharged by a grand jury composed of men whose interests and sympathies were on the wrong side. Fifteen were arrested for having short lobsters (convicted), one for not marking his car (discharged), one for assaulting an officer (convicted). Amount of fines imposed, $2,470.

Respectfully submitted,

Wm. H. Proctor, *District Police.*

Chapter 390, Acts of 1889, authorized the commission to build new hatching houses, and the sum of one thousand dollars was appropriated for that purpose. After considerable prospecting, we succeeded in finding a suitable location in the town of Sutton, about eight miles from Worcester, on the Providence & Worcester Railroad. The owner agreed to lease to the State two acres of land, with control of spring and brook, for a term of ten years, at $25 per year, with the privilege of purchasing the property any time within that term for three hundred dollars. As the location was good and the supply of water all that could be desired, we decided to take the lease. The house has been built, and considerable necessary work done outside. To complete the works, put them in running order and to pay a superintendent, will require further appropriation.

The last Legislature passed a resolve requesting "the Commissioners on Inland Fisheries and Game to confer with the proper authorities of the States of Maine, New Hampshire, Vermont, Rhode Island and Connecticut, with a view to securing the adoption of uniform laws to protect the food

fishes of the States named," and to report the result of their conference to the General Court of the year 1892.

Your commissioners had no knowledge of the resolution until some time after the Legislature had adjourned, when a copy was sent to the chairman of the Board by the clerk of the Senate. We regret to say that no appropriation was made to cover the necessary expenses of this conference. The conference was held in Boston, at the State House, November 24, in which all the New England States were represented. The discussion, or interchange of opinions, was preliminary, and intended to be a preface to a more thorough discussion at some subsequent meeting, which the chairman of the Massachusetts Board was authorized to call.

It was evident, before the meeting came to order, that the obstacles to uniform laws would be found in climatic conditions. The trout laws in several States fix the open season "from the first of May," a month later than in Massachusetts. This is in part to protect the wholesale destruction of these fish by taking them through the ice.

It was intended to have discussed the lobster question fully; but, unfortunately, Mr. Gould, commissioner of sea and shore fisheries for Maine, could not be present. It was therefore deferred until the next meeting. The lobster laws for Massachusetts and Maine are, except for the unfortunate concession made to the canneries in the latter State, so similar as to allow the two States to work in harmony.

A full report of the conference will be found in the Appendix.

Returns show a constant decrease in our shad fisheries in the inland waters, and, unless some decided effort is made to protect these fish, they are doomed to total destruction in all the New England States. It is the old story, the mistaken idea that every one should have the right to take and kill as he pleases, upheld by unwise legislation, supposed to be in the interest of the few, regardless of the future and the public good. It is idle to talk of the impurities of our rivers and streams, as producing these results. The Merrimac and the Connecticut are sufficiently pure to sustain all the native fish in them, as well as alewives, trout and salmon, the latter requiring the purest of water. Shad will thrive in

any water suitable for alewives. The seines and weirs at or near the mouths of the rivers are permitted to destroy the young fish, before they have time to mature and deposit their spawn, without which it is self-evident that no fisheries can be sustained. There is nothing complicated or mysterious in the diminution of our fish and game; the land and the water are as capable of production as ever they were. The great cause of the depletion is legislation which does not protect, but, on the contrary, allows wholesale destruction.

It is impossible to preserve our game against the traps and snares, or our inland fisheries against the use of seines and other contrivances permitted at or near the mouths of our rivers and streams. There is no business in the world which, if conducted on the same principles that have been applied to our fish and game, would not sooner or later end in disaster. Fortunately, the efforts to protect our lobster fisheries have, after a long struggle, running over a period of some twelve years, received the attention they deserved. Healthy laws have been enacted, and if the work inaugurated and now well under way is allowed to be carried out, there appears to be no reason why complete success should not be secured.

The returns show a catch of only 2,451 shad taken in inland waters, a decrease of 2,443 from last year. Taken in salt water, by pounds, weirs and gill nets, 26,895. Increase of alewives, 1,915,902; sea-herring, 5,626,625; scup, 2,804,223; squeteague, 53,754; mackerel, 1,701,947; tautog, 7,165;; flounders and flatfish, 175,320. Decrease of menhaden, 2,431,752; striped bass, 5,640; Spanish mackerel, 2,318; bluefish, 158,425; eels, 18,812; other edible fish, 518,202.

Total catch of lobsters, 1,292,791. Decrease, 52 men, 4,106 traps, 319,338 large lobsters, 20,936 egg-bearing lobsters. The increase per trap has been one and one-sixth per cent. Fifty-two men engaged in the lobster fisheries last year have not, up to date, made returns this year.

Birds and Game.

The beneficial results of protection of the game birds continue apparent. The increase of vermin like foxes,

skunks, weasels and red squirrels is an important factor in reducing our game supply. The foxes and skunks are ground hunters, keen of scent, nocturnal in habit, and immensely destructive of ground game.

The ruffed grouse over nearly all New England at this season show an almost unaccountable scarcity. The young birds in the early season were plenty and apparently healthful, but since August 1 have been depleted. This is attributable probably to two causes; first, the invasion of ticks, which, once in a series of years, seems to decimate that bird; and, secondly, the large increase of predatory animals.

It is desirable that the commission be equipped with sufficient funds and authority to maintain game wardens or officers in different parts of the Commonwealth. The commission is constantly besought by individuals to enforce the game laws; and in many cases it is demanded and expected by people that the commissioners shall take the field and become personal detectives to discover the various violations of the law. Expenditures of this kind will justify themselves in this direction many times over. Respect for the laws protecting our fish and game is increasing. Acquaintance by the people with our purposes and desires results in their moral support, cheerfully given.

We are of the opinion that a reasonable bounty, authorized to be paid by the counties for the pelts or heads of noxious animals, would be a wise measure and productive of much good. The losses by farmers from these vermin alone would justify the payment of the bounties. In some of the western counties it has become almost impossible in some towns to raise turkeys and fowls unless constantly protected from the attacks of these predatory enemies.

The following is a list of permits to take eggs and birds in 1891: —

Geo. H. Mackay,	Boston.
Fletcher Osgood,	Boston.
Sam'l Dexter,	Boston.
Foster H. Brackett,	Boston.
C. F. Batchelder,	Cambridge.
Wm. Brewster,	Cambridge.
Owen Durfee,	Fall River.
Arthur C. Bent,	Taunton.

Albert P. Morse (for Wellesley College),	Natick.
Henry W. Marsden,	Quincy.
Geo. B. Churchill (for Worcester Natural History Society),	Worcester.
Horace B. Long (for Worcester Natural History Society),	Worcester.
Capt. N. E. Gould,	Chatham.
C. W. Chamberlain,	Boston.
W. W. Colburn,	Springfield.
Robt. O. Morris,	Springfield.
William J. Fisher,	Amherst.
Wm. S. Barker, Jr.,	Medford.
Frank E. Coombs,	Framingham.
Dr. C. F. Hodge (for Clark University),	Worcester.
Howes Norris, Jr,	Cottage City.
Harry Gordon White (U. S. Fish Commission),	Taunton.
J. D. Somborger,	Andover.
H. B. Davis (for Arms Academy),	Shelburne Falls.

The work of the commission has been successfully carried on during the past year. It may be briefly stated that the fishways have been cared for; advice and assistance rendered to those who were engaged in propagating and maintaining fish; 580,000 trout distributed over the State, with a loss of less than one per cent. in transportation; the sea-coast patrolled; Buzzard's Bay protected from the depredations of the menhaden fishermen; the illegal traffic in lobsters, carried on by vessels from other States, almost entirely broken up; sixteen thousand short and egg-bearing lobsters, unlawfully held, captured and returned to the water alive; 138,000,000 lobster eggs planted in waters depleted by overfishing; and the new hatchery at Sutton nearly completed.

During the past three years the violations of the laws for the protection of fish and game have been reduced ninety per cent. To accomplish this work, with the limited means at our disposal, has been no easy task.

EDWARD A. BRACKETT,
EDWARD H. LATHROP,
ISAIAH C. YOUNG,

Commissioners of Inland Fisheries and Game.

APPENDIX.

[A.]

LIST OF FISH COMMISSIONERS.

The United States.

Col Marshall McDonald, Commissioner, . Washington, D. C.
Capt J. W. Collins, Assistant in Charge of Fisheries Division.
Richard Rathbun, Assistant in Charge of Scientific Inquiry.

Alabama.

Col. D. R. Hundley, ... Madison.
Hon. Chas. S. G. Doster, ... Prattville.

Arizona.

T. W. Otis, ... Prescott.
John Howard, ... Prescott.
C. W. Stearns, ... Phenix.

Arkansas.

H. H. Rottaken, President, ... Little Rock.
W. B. Worthen, Secretary, ... Little Rock.
J. W. Callaway, ... Little Rock.

This State has never made an appropriation for fish culture.

Dominion of Canada.

Hon C. H Tupper, Minister of Marine and Fisheries, Ottawa.
Hon John Tilton, Deputy Minister, Ottawa.
S P. Bauset, Chief Clerk, Ottawa.
Samuel Wilmot, Superintendent of Fish Culture, Ottawa.
Inspectors of Fisheries: J R. Kinney, Yarmouth, N. S.; R. C Hockin, Pictou, N. S.; A C. Bertram, North Sydney, N. S, J. H Pratt, St. Andrews, N. B.; R A. Chapman, Moncton, N. B.; D. Morrow, Oromocto, N. B.; E. Hackett, Tignish, P. E. I.; W. Wakeman, Gaspé Basin, P. Q.; Thos. Mowat, New Westminster, B. C.; Alex McQueen, Winnipeg, Manitoba; F. C. Gilchrist, Fort Qu'Appelle, N. W. T.
Officers in Charge of Fish-breeding Establishments: S. Wilmot, Superintendent of Fish Culture, Newcastle, Ont; Chas. Wilmot, Officer in Charge, Newcastle hatchery, Ont.; Wm. Parker, Sandwich, Ont.; L. N Cattelier, Tadoussac, Q; H. Davis, Gaspé, Q; A. H. Moore, Magog, Q.; Alex Mowat, Restigouche, Matapedia, P. Q.; A. B. Wilmot, Bedford, N. S.; C. A. Farquharson, Sydney, N. S.; Isaac Sheasgreen, Miramichi, N. B.; Charles McCluskey, St. John River, Grand Falls, N. B.; Henry Clark, Dunk River; P. E. I.; Thomas Mowat, B. C. hatchery, New Westminster, B. C.

NEWFOUNDLAND.

Hon. A. W. Harvey, Chairman, St. Johns; M. Harvey, Secretary, St. Johns; Adolph Nielson, Superintendent of Fisheries, St. Johns.

CALIFORNIA.

Joseph Routier, ... Sacramento.
J. D. Harvey, ... Los Angeles.
C. M. Joslyn, ... San Francisco.

COLORADO.

Gordon Land, ... Denver.

CONNECTICUT.

Rob't B. Chalker, ... Saybrook.
James A. Bill, ... Lyme.
Wm. S. Downs, ... Birmingham.

The Shellfish Commissioners are: Dr. Wm. H. Hudson, Chairman. Hartford; George C. Waldo, Bridgeport; Bryant A. Treat, Wallingford.

DELAWARE.

Charles H. Shubert, ... Odessa.
Dr. E. G. Shortlidge (Supt. of Hatcheries), . Wilmington.

GEORGIA.

R. T. Nesbitt, ... Atlanta.
Dr. H. H. Cary, Superintendent, . . . La Grange.

ILLINOIS.

N. K. Fairbank, President, ... Chicago.
S. P. Bartlett, ... Quincy.
Geo. Breuning, ... Centralia

INDIANA.

Col. W. T. Dennis, ... Richmond.

IOWA.

E. D. Carlton, ... Spirit Lake.
Ole Bjorenson, Superintendent.

KANSAS.

John M. Brumbaugh, ... Concordia.

MAINE.

E. M. Stillwell, ... Bangor.
Henry O. Stanley, ... Dixfield.
E. W. Gould, Sea and Shore Fisheries, . . Searsport.

MARYLAND.

G. W. Delawder, ... Oakland.
G. R. Rider, ... Salisbury.

MASSACHUSETTS.

E. A. Brackett, ... Winchester.
I. C. Young, ... Wellfleet.
E. H. Lathrop, ... Springfield.

MICHIGAN.

Hoyt Post, ... Detroit.
Herschel Whitaker, ... Detroit.
Joel C. Parker, M. D., ... Grand Rapids
Walter D. Marks, Superintendent, . . . Paris.
George D. Mussey, Secretary, . . . Detroit.
William A. Butler, Jr., Treasurer, . . . Detroit.

MINNESOTA.

William Bird, ... Fairmont.
Niles Carpenter, ... Rushford.
Robert Ormsby Sweeny, President, . . Duluth.
S. S. Watkins, Superintendent, . . . Willow Brook, St. Paul.

MISSOURI.

H. M. Garlichs, Chairman, ... St. Joseph.
J. L. Smith, ... Jefferson.
Edw. Cunningham, ... St. Louis.
A. C. Garlichs, Secretary, . . . St. Joseph.
Philip Kopplin, Jr., Superintendent, . . St. Louis.
James W. Day, Superintendent, . . . St. Joseph.

NEBRASKA.

William L. May, ... Fremont.
J. C. McBride, ... Lincoln.
B. E. B. Kennedy, ... Omaha.
M. E. O'Brien, Superintendent, . . . South Bend.

NEVADA.

Geo. T. Mills, ... Carson City.
Ernest Harris, Deputy, ... Carson City.

NEW HAMPSHIRE.

George W. Riddle, ... Manchester.
Elliott B. Hodge, ... Plymouth.
W. H. Griffin, ... Henniker.
Elliott B. Hodge, Superintendent of Plymouth and Sunapee hatcheries, ... Plymouth.

New Jersey.

William Wright, ... Newark.
Frank M. Ward, ... Newton.
Robt. D. Foote, ... Morristown.
W. A. Newell, ... Pennsville.

New York.

E. G. Blackford, President, ... New York.
L. Huntington, ... New Rochelle.
William H. Bowman, ... Rochester.
A. S. Joline, ... Tottenville.
Henry Burden, ... Troy.
E. P. Doyle, Secretary, room 311, Potter Building, ... New York City.
Superintendents: Fred Mather, Cold Spring Harbor; Monroe A. Green, Caledonia; E L. Marks, Fulton Chain; E. F. Boehm, Mill Creek, and J. G. Roberts.
Shell-fish Commission: E. G. Blackford, Commissioner; William G. Ford, Engineer; J. W. Merserau, Oyster Protector, 80 Fulton Market, New York. Chief Game and Fish Protector, J. W. Pond, Albany

Ohio.

C. V. Osborn, President, ... Dayton.
J. A. Henshall, Secretary, ... Cincinnati.
E. D. Potter, ... Toledo.
J. H. Newton, ... Newark.
Wm R Huntington, ... Cleveland.
G. W. Hull, Chief Warden, ... Lima
Wm. Lantz, Superintendent of Fisheries, . Sandusky.

Oregon.

F. C. Reed, President, ... Clackamas.
E. P. Thompson, ... Portland.
R. C. Campbell, ... Ranier.

Pennsylvania.

Henry C. Ford, President, 524 Walnut Street, Philadelphia.
James V. Long, Corresponding Secretary, 75 Fifth Avenue, ... Pittsburg.
H. C. Demuth, Secretary of Board, . . . Lancaster.
S. B. Stilwell, ... Scranton.
L. Streuber, ... Erie.
W. L. Powell, Treasurer, ... Harrisburg.
John P. Creveling, Superintendent, . . Allentown.
William Buller, Superintendent, . . . Corry.

RHODE ISLAND.

Henry T. Root, Treasurer, ... Providence.
William P. Morton, Secretary, ... Johnston.
J. M. K. Southwick, ... Newport.

SOUTH CAROLINA.

Hon. A. P. Butler, ... Columbia.

TENNESSEE.

W. W. McDowell, ... Memphis.
H. H. Sneed, ... Chattanooga.
Edward D. Hicks, ... Nashville.

UTAH.

A. Milton Musser, ... Salt Lake City.

VERMONT.

Herbert Brainard, ... St. Albans.
F. H. Atherton, ... Waterbury.

VIRGINIA.

Dr. J. T. Wilkins, ... Bridgetown.

WEST VIRGINIA.

C. S. White, President, ... Romney.
F. J. Baxter, Treasurer, ... Sutton.
N. C. Prickett, Secretary, ... Ravenswood.

WISCONSIN.

The Governor, *ex officio*.
Philo Dunning, President, ... Madison.
C. L. Valentine, Secretary and Treasurer, . Jamesville.
Mark Douglass, ... Melrose.
A. V. H. Carpenter, ... Milwaukee.
Calvert Spensley, ... Mineral Point.
E. S. Miner, ... Sturgeon Bay.
James Nevins, Superintendent, . . . Madison.

WYOMING TERRITORY.

Louis Miller, ... Laramie.

[B.]

Report of the Conference of the Fish and Game Commissioners of the Several New England States, held in Room A at the Massachusetts State House, Boston, Tuesday, November 24, the Proceedings opening at eleven A.M.

Edward A. Brackett of Winchester, chairman of the Massachusetts commission, presided. There were also present the following commissioners from other States: —

Connecticut.

James A. Bill of Lyme.
W. S. Downs of Birmingham.
Dr. William L. Hudson of Saybrook.
Robert G. Chalker of Saybrook.

Maine.

E. M. Stillwell of Bangor.
Henry O. Stanley of Dixfield.

New Hampshire.

E. B. Hodge of Plymouth.
W. H. Griffen of Henniker.

Vermont.

Herbert Brainard of St. Albans.
F. H. Atherton of Waterbury.

Rhode Island.

J. M. K. Southwick.

The conference was called to order by the chairman, Commissioner Brackett, of Massachusetts.

The Chairman. Gentlemen, I will now read to you the resolve under which the commissioners of Massachusetts were required to enter into consultation with the commissioners of the other New England States. It is as follows: —

[Senate No. 265.]

Commonwealth of Massachusetts.

In the Year One Thousand Eight Hundred and Ninety-one.

Resolutions Relating to the Adoption of Uniform Laws for the Protection of Food Fishes in the New England States.

Whereas, There are great variations in the laws of Maine, New Hampshire, Vermont, Rhode Island, Connecticut and Massachusetts, regarding the protection of food fishes, and as a law the same for all the States herein named would be of benefit to all interested, therefore be it

Resolved, That the Senate and House of Representatives of the Commonwealth of Massachusetts, in General Court assembled, request the Commissioners on Inland Fisheries and Game of the Commonwealth, to solicit a conference with the proper authorities of the States of Maine, New Hampshire, Vermont, Rhode Island and Connecticut, and urge the adoption of uniform laws to protect the food fishes of the States named.

Resolved, That the Commissioners on Inland Fisheries and Game be and are hereby requested to report the result of their conference to the General Court of the year eighteen hundred and ninety-two.

Resolved, That copies of these resolutions be forwarded to the governors of the States of Maine, New Hampshire, Vermont, Rhode Island and Connecticut.

Gentlemen, this is the object for which this meeting is called. I also desire, when we are through with this particular matter, to discuss and interchange ideas and opinions, as a general conference, not authoritatively and not as a matter coming directly under this resolve, upon other subjects connected with general fish culture and game. I thank you very heartily, in behalf of the State, for responding to the invitation that has been extended to you, and trust that hereafter, without any promptings from the Legislature, we shall have an annual meeting of the New England commissioners. It seems to me desirable that, in the interest of the objects in which we are all engaged, such conferences should be held. We will now proceed at once to the subject under discussion, and, if it be your minds, we will take up the question of trout.

Commissioner Southwick. Mr. Chairman, I would say for myself that I do not represent the Game Law Commissioners of Rhode Island. It is simply as a Fish Commissioner of that State that I am present.

The Chairman. This is simply a general conference.

Commissioner Southwick. There are also two other commissioners from our State. I do not know whether they were invited or not.

The Chairman. They were invited, sir. We will take up the subject of trout.

Trout.

Our law (Massachusetts) stands in this way: —

Whoever takes a trout, land-locked salmon or lake trout between the first day of September and the first day of April, or buys such fish taken in this Commonwealth between said dates, or takes a trout, land-locked salmon or lake trout, with a net or salmon-pot, at any season of the year, shall forfeit not less than five nor more than twenty dollars for each fish so taken. (Public Statutes, chapter 91, section 51; Acts of 1884, chapter 171.)

Whoever sells, or offers or exposes for sale, or has in his possession, a trout, land-locked salmon or lake trout, except alive, between the first day of September and the first day of April, shall forfeit, for every such fish taken in this Commonwealth between said dates, ten dollars; and the possession of any such fish between said dates shall be *prima facie* evidence to convict. (Public Statutes, chapter 91, section 53; Acts of 1884, chapter 171.)

Chapter one hundred and seventy-one of the Acts of the year eighteen hundred and eighty four is hereby amended by adding at the end of the first section the words: except in the counties of Berkshire, Franklin, Hampshire and Hampden, where such time shall be between the first day of August and the first day of April, under a penalty of not less than ten and not more than twenty-five dollars for each and every violation thereof; so that the section shall read as follows: "The time within which any person is forbidden to take, sell, offer or expose for sale or to have in his possession a trout, land-locked salmon or lake trout, by sections 51 and 53 of chapter 91 of the Public Statutes, shall be between the first day of September and the first day of April, except in the counties of Berkshire, Franklin and Hampshire, where such time shall be between the first day of August and the first day of April, under a penalty of not less than ten and not more than twenty-five dollars for each and every violation thereof." (Acts of 1890, chapter 193.)

I have here a few copies of the law of Massachusetts that I will distribute among you. They contain abstracts of our fish and game laws. I should be very glad to hear from any of you on this subject.

Commissioner Brainard. I would state, Mr. Chairman, that in the State of Vermont our close season was originally from May 1 to September 1. We found that some of our sister States had a different close season, making it, as you have it now, from April 1 to September 1, and we found it furnished quite an inducement to people to fish through the ice. We have a great many ponds in Vermont that are frozen over in April; and we found that, by making the open season from April 1 to August 1, the people would go onto the ice, fish through the ice, and in that way catch a good many trout, — in fact, almost deplete the waters. The fish had been there all winter. When the bright sun came out in the middle of the day, the fish would come to the holes and would congregate in these holes. The people would take them out by thousands. Hence we had the law amended, so that it now reads from May 1 to September 1. We should have lost all of our trout if we had not done so.

Commissioner Hodge. Mr. Chairman, speaking for New Hampshire, I can say that we find the same difficulty arising there. Our law for many years was from May 1 to September 30, for the

open season. Unfortunately, at the last session of our Legislature a bill was, to use a word sometimes employed up in the Granite State, "squirreled" through in the last days of the session, when everything was in confusion, changing the laws that we had found to work satisfactorily, and making our close season from September 15 to April 15. Now we find the same trouble that my friend from Vermont found. Our mountain ponds at that season of the year, April 15, are covered with ice from one to two and a half feet thick. Last season hundreds of trout were taken through the ice,— I won't say illegally, because the law allowed it, but in an unsportsmanlike manner; and, unless we can place our law back to May 1, it means destruction to our trout fishing in all of our mountain ponds. I know that a strong effort will be made, and I have no doubt it will succeed, and that we shall place our law, at the next session of the Legislature, where it was before. We had the old law upon our statute books ten years, and found it worked satisfactorily. While October 1 was rather late, still we did not find much trouble from that. The reason why the open season was kept up to October 1 was this: Many of our sportsmen wished to go into our northern woods for the deer hunting at that season of the year. They also liked to change their bill of fare to a little mess of trout once in a while. There was no fishing to any extent done in our ponds during the month of September, except by the few sportsmen who were on their annual trips to our woods after deer. As I said before, a strong effort will be made to change our law from April 15 to May 1. That is early enough for us, and in reality it is too early. For my own part, I should rather see it May 15 than May 1.

The Chairman. Dr. Hudson, how is it in regard to Connecticut?

Commissioner Hudson. I was going to say, gentlemen, that I suppose you are well aware that I am not a fish commissioner; I am a shell-fish commissioner only. I will say that our law varies entirely from yours in regard to trout. Our law only allows the taking of trout between April 1 and July 1. The reason for that is found in the fact that our streams get very low in the summer, and nearly dry up; and it was found, under the old system, that trout were taken by little nets in the holes where they accumulated in the dry weather. So now for a number of years our law has remained April 1 to July 1. Every time an attempt has been made to change it, as has been done at almost every session of the Legislature, the same men, men who are satisfied that the present law is for the best interest of both the State and the anglers, go up in a body and insist on the law remaining as it is. We also have a law, as I presume all of you have, that no trout shall be sold

under six inches in length. If a man take a trout under six inches in length, he may possibly eat it, but he cannot sell it.

Commissioner Brainard. In Vermont one cannot take such a trout without being liable to a fine.

The Chairman. There has been more or less effort to have such a law in Massachusetts, and I think one should be enacted. A trout six inches long is a very small trout.

Commissioner Hodge. Our limit in New Hampshire is five inches, which is altogether too small, although I had a hard fight to get even that limit established. The argument I used before the committee was what you might call a "knock-down one." Instead of making a speech, I took three trout and a pair of scales before the committee. These trout were four, five and six inches long. I asked the committee to estimate the weight of the four-inch trout, which was given as from one to two ounces by the whole committee. The actual weight of a four-inch trout from our mountain streams is just one quarter of an ounce; of a five-inch trout one half an ounce, and of a six-inch trout one ounce.

The Chairman. Do any of the Connecticut commissioners desire to say anything further on this subject?

Commissioner Downs. I think our law (Connecticut) provides for a six-inch trout. It is unlawful to have them in our possession, without regard to eating or anything else.

Commissioner Hudson. No; they can eat them, but they cannot sell them. If our seasons continue as they have been for the past few years, having such a late fall every season and such a very late spring, it may be that we will have to change the law, and make it later even than April 1. For several seasons we have had a late fall and open weather following, and in the spring time it has been very close and cold up to April 1. Some people believe, if the seasons continue so late that the brooks are frozen up and coated with ice, it would be better to change the law. There has been for the last two or three years a movement to change it practically to April 15. It is not much use fishing in Connecticut after July 1, because the streams get so low. The trout fishing in Connecticut has been excellent for two or three years.

Commissioner Downs. The last two seasons — we have had two wet summers — there has been extra good fishing.

The Chairman. I suppose it is the same in Connecticut as in other New England States; you have your good and your bad seasons.

Commissioner Downs. I suppose all the States provide that trout shall be taken with the hook? That is, they don't allow any dynamite, nets, or anything of that kind?

The CHAIRMAN. Yes, sir.

Commissioner DOWNS. I should think a dry season would have a very bad effect on the fish that were planted the previous spring.

Commissioner HUDSON. It seems to me obvious, Mr. Chairman, that the State of Maine could not well have the same laws in regard to the taking of trout as the State of Connecticut or Rhode Island. Trout fishing is a very important industry there. An immense quantity of money is brought into the State by sportsmen, and the State has such efficient fish commissioners that they manage to do the settling up without any regard to how many fish the sportsmen take. I should like to hear from Mr. Stillwell.

Commissioner HODGE. I do not think there is as much importance attached to the close season as the open. At the close of the season there is very little attention paid to the capturing of trout in our State. I suppose it is the same throughout New England.

The CHAIRMAN. It is the same here.

Commissioner HODGE. But it does seem to me as though we might have a uniform law in New England for the opening day. I know you have a different opening day in your State (Massachusetts) than we do in New Hampshire, but your trout would only be the better if your season opened later.

The CHAIRMAN. The trouting fever takes possession of our sportsmen early in the season, but generally passes off with the hot weather, except with those who go farther north.

Commissioner HUDSON. I would say that I had quite a conversation with Mr. Stillwell on these matters last evening. He said that the laws of Maine were just right, and that, if any other States wished to adopt them, it would be perfectly satisfactory to them.

Commissioner STILLWELL. Our laws are well adapted to our people. We have obtained them by hard fighting. We are a border State, and are fighting all the time. I question whether our laws would do for you. You do not understand border warfare as well as we do.

The CHAIRMAN. Will you be good enough to state what your law on trout is?

Commissioner STILLWELL. The close season is from October 1 to May 1.

Commissioner STANLEY. Except for citizens of the State. Citizens of the State may fish from February until May at their homes.

Commissioner STILLWELL. But during that time and all through the year we have to fight the users of nets and dynamite.

Commissioner Stanley. There is no fishing in Maine before the middle of May.

Commissioner Downs. Fishing in Connecticut is almost entirely in streams, — in small streams, too. We have no lakes to speak of. In Maine, Vermont and New Hampshire, when the sportsmen begin to fish, it is in the lakes and ponds, and is vastly different from the fishing we have. Our fishing is when the streams are high, in the spring of the year. We do not have many sportsmen who come from outside. In fact, most of the fishing in the State of Connecticut is done a day at a time, whereas in other New England States, where there are fishing lakes and fishing ponds, a man spends one or more weeks, as he can find time; and the Connecticut laws for trout fishing must necessarily be very different from those of other States. Our fishing is likely to be local, by people who live within ten or fifteen miles of a trout stream, and go and fish one day.

Commissioner Hudson. I do not wish to convey the idea that there are no outsiders. There are people who come from New York.

Commissioner Downs. They come for one or two days, and that is all. They do not fish in the same place for those two days; but in one stream one day and another stream the next. In July or August they go to Vermont, Maine or Canada, and put in two weeks. Our fishing, so far as trout is concerned, is local. A man goes out in the right part of a day, and if he gets eight or ten trout he does well.

The Chairman. What amount of money do you estimate is brought into Maine by tourists during the fishing and shooting season, Mr. Stillwell?

Commissioner Stillwell. It is estimated by millions.

The Chairman. How about New Hampshire, Mr. Hodge?

Commissioner Hodge. I cannot speak as to the amount. We consider that our fishing and shooting is one of the greatest inducements that we can offer summer visitors. It is well known that the amount of money brought into New Hampshire by tourists runs way into the millions every year. This our people all admit.

Commissioner Stillwell. I said to the superintendent of one of our largest railroads, "If I should put some powder into Moosehead Lake that would exterminate all the fish, what would be the result?" He replied, "Mr. Stillwell, we should have to stop running our road."

The Chairman. Mr. Hodge, how many hatching houses for the propagation of fish have you in New Hampshire?

Commissioner Hodge. We have six hatcheries now in operation,

and an appropriation standing on the books at the State House for another one.

The Chairman. Mr. Stillwell, how many hatcheries have you in Maine?

Commissioner Stillwell. We have four or five run by the State. We pay for ours out of the appropriation. We have the eggs ourselves. Then we have intimate connection with the United States hatcheries. For instance, this year we have eighty thousand salmon, boarded by the United States. We have transported those salmon twenty miles, at a loss of only sixteen thousand out of eighty thousand.

The Chairman. How many did you carry in a can?

Commissioner Stillwell. Fishes of that size we could not carry more than two hundred. But spring-hatched fish, little fish, we could take four thousand or five thousand and transport them fifty or one hundred miles with ice, etc.

The Chairman. Has Rhode Island anything to offer in regard to trout laws?

Commissioner Southwick. I can say very little in regard to trout in Rhode Island. We unfortunately have not many trout streams. We have two or three hatcheries that are being quite successfully carried on by private individuals, but none by the State. The fish are planted in some of the rivers and ponds of the State.

Commissioner Stanley. You asked how many hatcheries we have, Mr. Brackett, in Maine. We have eight.

The Chairman. Those are paid for by the State?

Commissioner Stanley. No, sir; some of them are paid for by private parties and clubs.

The Chairman. The State has how many of its own?

Commissioner Stanley. The State owns six that are run independent of clubs.

Commissioner Stillwell. Our State has temporary, tumble-down affairs, built at small expense and devoted to hatching. There is one point I might mention. There are two classes of fish raised in our State, — those fed on liver and lights ground up fine, and those fed on maggots from spoiled meat. Those fed upon maggots are larger than those fed upon liver and lights, perhaps one-third or one-quarter larger; they grow more rapidly and seem to be lustier fish. It is not a very charming industry, the breeding of these maggots for this purpose, but the fish grow very rapidly when thus fed. They are carefully preserved, these flies, the blue-bottle flies that we all seek so to kill. We have to watch the male and female flies as carefully as if they were blooded

stock. As fish food there is nothing equal to the maggot. The lights we boil first, in order to have them ground into pulp.

The Chairman. Does any one wish to say anything more in regard to trout? If not, we will take up the subject of shad. Is there anything to be said, gentlemen, upon the subject of shad?

Shad.

Commissioner Hudson. You live on the Merrimac, Mr. Chairman; how is it there as to shad?

The Chairman. They are disappearing, growing less in all waters south of the Merrimac. How are the shad in Maine, Mr. Stillwell?

Commissioner Stillwell. There is but little in regard to shad worth mentioning or trespassing upon your time with. Mr. Mather has written us from year to year, and asked whether we have met with any success in passing shad through our fishways. Up to last year we had to state that we had never known shad to pass through our fishways. But this last year some very large shad were found in the fishway at Bangor. As some changes have taken place in this fishway, in the lower compartments, letting in some light and bottoming it with stone, we attribute the passage of the fish to that change. Eight very large shad were seen in the upper compartments of the fishway this last year. They were not timid at all, and they passed through and ascended the river. Some very large shad have been taken above the Bangor fishway. That is all our experience for the last year or two, worth relating.

The Chairman. What are the laws of Maine in regard to taking shad? Are there any changes?

Commissioner Stillwell. There is nothing but the same old law.

Commissioner Southwick. I have heard of one quite interesting phenomenon, perhaps not generally known in relation to shad. There were six hundred large roe shad taken in the Chesapeake in a week during this month, — something unknown before in the history of the country.

The Chairman. They probably were fish on their way towards the spawning grounds.

Commissioner Southwick. I do not know. This was on the Virginia shore.

The Chairman. Now, in regard to salmon.

Salmon.

Commissioner Stillwell. I have nothing new in regard to salmon to report

The Chairman. Dr. Hudson, what are the laws in regard to the taking of salmon in the Connecticut River?

Commissioner Hudson. The great run of salmon in the Connecticut River was in 1878. Before the United States Fish Commission was formed, the commissioners of Massachusetts, Maine and Connecticut, — I have forgotten whether, in the very early part of it, the other New England States were connected with us, but they were afterward, — had an arrangement whereby we purchased our young salmon in Canada of Commissioner Wilmot. Finally we thought we could raise our own fish; and Massachusetts, New Hampshire, Vermont and Connecticut combined to make a grand club on the Connecticut River.

The Chairman. Those eggs were taken from Bucksport?

Commissioner Hudson. Those eggs were taken from Bucksport. We put about one million young fish into the tributaries of the Connecticut River. We were confident that the mature fish would return, because we had heard of the young ones more or less during the intervening years; and four years later, in 1878, we tried very hard to have a law passed by the Connecticut Legislature protecting these salmon. But we were ridiculed, were told that the thing was an absolute farce, that there never would be another salmon seen in the Connecticut; and nobody paid any attention to our request. Soon after that I had record of about five hundred full-grown salmon taken. They were considered great prizes, and were sold in the New York and Boston markets at a dollar a pound. From that time on a few salmon have been taken in the Connecticut River, but there never has been any great run since.

The Chairman. It is, in your judgment, a fact, then, that the plant made in the Connecticut River was successful so far as the action of the commissioners was concerned, but the fishermen destroyed the plant.

Commissioner Hudson. There is no question about that, I think.

Commissioner Downs. We caught two in our river a couple of years ago,— one weighing sixteen pounds, and one twenty.

The Chairman. Your law does not prohibit taking salmon.

Commissioner Downs. I think not, no; they are so few and far between. The fishermen at the mouth of the Connecticut River now take quite a number of salmon in their nets. Last spring there were quite a number captured that I saw myself.

The Chairman. From your knowledge and experience, Dr. Hudson, in regard to the planting of salmon in the Connecticut, do you understand that, if they had been let alone, the river would have been stocked with them?

Commissioner Hudson. Well, that is another thing entirely, because the question immediately arises, What would have become of them if none had been caught? The water is not cool enough there for them to breed. Unless they could find some breeding streams, they would all die out in the Connecticut, as they would anywhere else.

The Chairman. They pass over the fishway at Lawrence without any difficulty.

Commissioner Hodge. Is it not a fact that salmon have been seen almost every year as far up as Bellows Falls?

Commissioner Hudson. I was not aware of it; it may be so.

Commissioner Hodge. It has been so reported to me.

Commissioner Downs. Isn't there some difference in the location of the fishway at Lawrence and in the others?

The Chairman. Yes, a difference only in the mouths of the fishways. All kinds of fish pass up the Merrimac River without any difficulty. I would say here, gentlemen, that the owners of the dam, or the board of directors of the Holyoke company, informed me that in the course of a year or two they were going to build a stone dam across the river. They came to me to know about fishways, and said that at the proper time they would build a fishway into the stone dam in such a way that the mouth of it would be near the dam. I have their assurance that such will be the case. There may be a chance still to open the river for shad. In that case it would be proper. Undoubtedly shad would go over if the fishway were built into the dam, running up stream, and the end of it coming out near the dam.

Commissioner Downs. There was some gentleman, my impression is that he was from New Hampshire, who wrote quite an article recently on the fishways at Lawrence and Holyoke; and, as near as I can remember, his conclusion was that the mouth of the fishway at Holyoke was in such a position that it was impossible for the shad to find it.

The Chairman. There is undoubtedly some truth in that. As the dam at Holyoke is located, it is impossible to make the fishway turn back to the extent we turn it back at Lawrence. I put in the fishway at Lawrence against the judgment of the engineers, who said it would not be likely to stand. It has stood perfectly. Now, if there is nothing further to be said on this subject, I should like the opinion of the different commissioners in regard to the passage of a law enabling people who breed trout to sell them at seasons of the year when their sale is prohibited by law. What, in your opinion, would be its result upon the propagation of trout, and the cultivation of trout in wild streams? Mr. Hodge, will you give us your opinion?

Commissioner Hodge. I regard this as an important subject. I understand such a law will be asked for in this State and in New Hampshire at our next session. I do not, for my part, see any way in which such a law can be placed upon our statute books without annulling the protection we now give to brook trout. I understand that one of the breeders in this State proposes to tag the cultivated trout. I do not understand in what way that can be done so as to afford any protection, or so as to prohibit any one else from attaching those tags to wild trout. Perhaps there are none of us here present but can tell at a glance a wild from a cultivated trout. But how many people are there in the State who can do that? It is almost an impossibility for any ordinary man to distinguish between the two; and, with such a law as is proposed, it would be opening the doors wide, and any person could take a wild trout and sell it for a cultivated trout. I see no way to prevent such a result. I know that, so far as we in New Hampshire are concerned, we shall fight that bill if it is presented. No doubt we can easily defeat it in New Hampshire, and I hope the same will be done elsewhere.

The Chairman. Our law forbids the sale of trout before April 1, but says that people who cultivate or maintain trout may take them how and when they please, but shall not offer them for sale for food during the time they are prohibited by law. Now, the word "maintain" covers a very large ground. There are two ways in which trout may be increased. One is by artificial propagation, the other is by increase in the natural way. In other words, you have a stream on which you post a notice forbidding people fishing on it. You have a right to do so. By the laws of Massachusetts you may allow fish to increase in it. You are maintaining them. You may take them and sell them during the open season. What is to be gained by this change of law? All States adjoining that are raising trout could throw them into our market. If no change is made in the other States, of course all persons who cultivate trout in other States could send them to our markets. It would become a dumping ground, and prices would go down. I can see no way, if this law is passed, to protect trout in the streams. It is desirable that the commissioners should express themselves freely on this question, because it has its relations to uniform laws.

Commissioner Southwick. It seems to me that it is of the utmost importance that every encouragement possible should be given to those who propagate fish. It seems to me that every encouragement possible should be given to those who, upon their own land, cultivate fish roes for increase, for the purpose of put-

ting into streams and other waters; and it strikes me as being a very arbitrary law that seeks to prevent a man from selling what he raises on his own domain. If he catches them in public waters, it is perhaps a different thing. Besides that, it seems to be absolutely essential for propagation that there should be no such law. If parties are going to be discouraged from raising trout, they will hardly want to go into the business; and the more there are in the business the better it pays, and if it appears very profitable, so much the better. We in Rhode Island are perhaps much less interested in land fisheries than all the other States, yet we have within our borders three or four trout hatcheries. I believe one of the most successful devices for raising trout is being matured there, and that it will prove an eminent success, from what I know of it, in the propagation of trout. The party claims that he can produce more trout from the same number of eggs than by any other process that has been evolved.

Commissioner Hudson. What is it, — the Hoxie process?

Commissioner Southwick. Yes, Hoxie. I think, from what I know of his plans, it will prove a success. But the idea of preventing a man from selling what he raises on his own ground, — I don't think the State has any right to interfere. I think I have the right to raise what I please on my own land, and I do not know the right of any law to interpose. I have a right to give away or sell the trout. I do so with everything else.

The Chairman. You understand that this matter does not prevent the sale of trout. It simply prevents the sale of them during such seasons as the sale is prohibited by law.

Commissioner Southwick. I understand. Well, if it can be done at certain periods, it can be done during the whole year.

The Chairman. The question is, how the trout in wild streams can be protected under such a law.

Commissioner Southwick. I see the point.

Commissioner Brainard. I agree perfectly with the gentleman from Rhode Island in regard to protecting home industries, so far as individual interest does not interfere with the public interest. Now, a man, he says, should have the right to buy and sell or raise and sell for his own benefit and own pecuniary advantage. That is true to a certain extent. But this allowing a man to sell his own trout raised in his own private streams or ponds is only opening the bar for a man to come forward, and, under cover of being a raiser of trout, to throw onto the market during the close season our wild trout, and there is no way of detecting them at all. This matter of tagging them is all bosh. As Mr. Hodge says, if the tags are held by any State officer to be distributed, he can represent that

he is a trout raiser, and he can get a certain number of such tags; he can go to a wild stream, — he may have a little pond of his own at home, — he can go to our State waters and take out what trout he pleases. I do not believe in allowing any private individuals to have advantages that are going to be a detriment to the general public.

Commissioner Southwick. By the Hoxie process I believe they produce more trout than they would otherwise produce in the whole State without it. Inasmuch as they do that, they are public benefactors, and should be encouraged by every means possible. I still believe that we could sell a half more trout than we should by prohibiting the sale of them, or by making the business so unprofitable that it could not be continued.

Commissioner Stanley. Mr. Chairman, the matter that you speak of in regard to the propagation of trout does not really affect any one in our State (Maine), for there is no one who propagates them for the market. But, if you open your market here in Massachusetts for the sale of trout, there are hundreds in Maine that would smuggle trout through to your market, and I think it would be a great damage. We have taken pains to make our laws so as to protect game and fish in every State in the nation. We do not allow the selling of a prairie chicken in Maine, although there are none there. It is so with all our fish and game. We try to have them protected not only in our own State but in others as well. It seems to me that if you open this market you will find trout from Maine coming in here for sale. The matter of the wild fish in our streams, — why, the wild fish in our streams are worth ten thousand of the fish that are propagated for market.

There is plenty of open time for the sale of those fish. In February and March trout are not in good condition for sale. I do not think trout fit to eat before May or June. That is the proper time to sell them.

Commissioner Hudson. This question brings up the whole matter of the *ferœ naturæ*. If a man raises chickens, we do not expect to say he shall not sell those chickens at any time of the year he pleases. If a man has a little spring or a large spring, perhaps holding a certain number of trout which he has put there, raised them exactly as he would so many chickens, from their birth up to four or five pounds in weight, — under such circumstances it seems to me a pretty difficult thing to say that he shall not sell those trout when he wants to. On the other hand, if he has got a stream that runs through a certain lot where the trout are wild, so to speak, then I can conceive how you can control those trout.

Commissioner Southwick. Chickens are now brought up as an

example. Private individuals raise chickens. The public do not. We do not have wild chickens, and there is no necessity for protecting them. A man raises chickens for his own private convenience, but none are raised by the State. The State goes to no expense in regard to the raising of chickens. But the matter of fish affects every citizen in the State; and, if a man is allowed to sell his fish in the market, of course he injures thousands where he benefits one.

Commissioner Hudson. I didn't happen to be here at the opening of the conference, and so did not hear the resolution read; but, as I infer, it is for the purpose of preventing any man selling trout out of season, whether alive or dead or any other way.

The Chairman. The law now is that any person can engage in the artificial cultivation or maintenance of trout, may take them when and how he pleases, but shall not offer them for sale during the time that they are prohibited by law.

Commissioner Hudson. I see.

The Chairman. Now, the point that would be likely to be brought up is this; that certain parties representing a very small industry want that law changed so they can sell their trout as they please, — in other words, two months earlier in many States. The State is stocking the streams with trout; and the question is, whether the passage of such a law would not be utterly ruinous to the trout fisheries of the State. That is the question.

Commissioner Downs. I think there is one other point in reference to what Commissioner Hudson said about a man who has a pond with trout in it. The man who has this pond and has these trout got them when the law was so he could not sell them. He knew when he bought them that he could not sell them. Now he has reared them, he wants the law changed to fit him. If you let the bars down there, next year he will want the privilege of leasing his premises to Tom, Dick or Harry, to fish in his waters and take the trout out. You cannot draw the line. If you let the bars down once, you have opened them forever. If another man wants a special law, you will have to give it to him. It is special legislation for the benefit of a very few men.

Commissioner Hudson. I am most thoroughly in sympathy with all the other gentlemen. It is only a question of methods.

Commissioner Downs. It does not affect us in any way, so far as we are concerned. But, if a few other gentlemen come along next year and want a similar privilege, how are you going to refuse them?

Commissioner Stilwell. A peculiar feature bearing on this case presented itself last year in Maine. A certain company pur-

chased a little island called Petit Menan, and enclosed it with very expensive wire fences. They advertised for live deer, and set every poacher in Maine on the *qui vive* to catch our deer in close time and sell them to this company.

Commissioner Hudson. Did they advertise for this in close time?

Mr. Stilwell. Yes. There are three lots staked out in the vicinity of this property of Petit Menan, very desirable places for summer residences; and they supposed they could have deer shooting in close time. But the commissioners were obliged to say to these gentlemen, "if we catch you with a haunch of venison outside of the gates of Petit Menan, we shall arrest you." This same question comes up again, and it is always presenting itself where a person has a private pond. You may have a private pond if you please, you may spear your fish, net your fish, kill them with dynamite if you please on your own premises, — it is all your own; but don't you take them outside of your gate; don't you go out into the town that belongs to the State of Maine. If you do, you must submit to the laws of the State of Maine. We are running against such cases all the time. Persons will come upon the borders of the State of Maine in close time, and advertise to give fifty dollars apiece for a live deer. One of the greatest nuisances we labor under is this continuous tempting of our citizens to poach.

Commissioner Downs. Does not Mr. Hoxie of Rhode Island sell a large proportion of his trout outside of the State?

Commissioner Southwick. I presume he does.

Commissioner Downs. I see he advertises in most of the sportsmen's papers. I have an idea he raised his trout to sell outside of the State.

The Chairman. It seems to me that, if such a law should be passed by the State of Massachusetts, it would be at variance with the laws of the other New England States, and Massachusetts would become the dumping ground of all the other States for trout, just the same as it is now for game; and, as a result, every one of the States outside of Massachusetts would at all times and all seasons send trout to this market knowing there was a market for them here, and no law to prevent it.

Commissioner Stilwell. If you can protect us, gentlemen, in your market here in Massachusetts, it will save us a great deal of annoyance. We protect the Western States by prohibiting the importation of prairie chicken. We do not allow a prairie chicken (pinnated grouse) to be sold in the State of Maine during the close time. We do not allow quail killed in Massachusetts to be sold

in Maine. If found, we immediately seize them. There is an inducement for poachers in Maine. Everything that is poached in Maine comes to Boston. As I said, we immediately seize quail shipped from Massachusetts if found in Maine, and prosecute the parties selling them. I do not think it is in your power to stop this thing, but I wish it were.

The CHAIRMAN. We have endeavored to remedy this. This difficulty arises just as my friend from Rhode Island states. A man says, "Why can't we buy game while it is in season, put it into our store-houses and sell it when we please? It is ours, irrespective of the law." These cold store-houses are the difficulty.

Commissioner STILWELL. It is a hard question to meet.

The CHAIRMAN. It is one of those things which, in my judgment, requires a great deal of thought; and, the bars once let down, is liable to ruin the game laws.

Commissioner HUDSON. A question very much akin to this has just been decided by the supreme court of Connecticut. It was in regard to some porgies sent from Norwich to New York. The law-breakers said they bought the porgies at a time when it was legal to take them; that they were merchandise, like everything else, and that they could send and sell them wherever they pleased. The matter was carried to the supreme court, and the supreme court sustained the law; exactly opposite from the Kansas supreme court, which took another view with regard to prairie chickens (pinnated grouse). The Connecticut court said that as long as the State unquestionably had control of its game, it could control the killing of game, and it could also control the disposition of game; and, if the State of Connecticut chose to pass a law that game should not be sent out of the State, it was constitutional and good law.

The CHAIRMAN. I am very glad to hear that, because Massachusetts has passed a law against the transportation of game; and we should be very glad, Mr. Stilwell, if it were possible, to prevent your poachers finding a market in the State of Massachusetts. We have done what we possibly could to prevent it, and we shall continue to do so as long as we are in office. We sympathize thoroughly with the difficulty you labor under.

Commissioner SOUTHWICK. I would say, Mr. Chairman, that I did not intend to represent the breeders of trout when I spoke in regard to trout. I spoke upon general principles. I have never discussed this question at all with the breeders of trout, and I do not know their mind about it. I do not know whether they want to sell them during that time or not.

The Chairman. Is there anything further to be said on that subject? Now, gentlemen, before we go any further, in order that I may not forget it, I would like to suggest to the commissioners of the New England States who are present here, that we have an annual meeting, for the purpose of discussing questions pertaining to fish and game. We should be very glad to co-operate with you, gentlemen, if you so desire; and I think much benefit might be derived from such intercourse.

Commissioner Hudson. I have been on the Connecticut commission a great many years. One of the pleasantest duties we have performed has been our annual gathering here at the State House; and I think the commissioners generally made it a point, if possible, to be here. It was not only very agreeable, but it was also instructive and for the best interests of our several States. The State of Connecticut, when it appointed its fish commissioners, especially provided that, among their other duties, they should consult with the commissioners of other States.

The Chairman. That was the case in regard to Massachusetts.

Commissioner Hodge. It is also the case in New Hampshire.

The Chairman. As far as my judgment goes, I think no part of the duties are more profitable than an interchange of ideas. If there is no other subject which you desire to discuss, I should like to refer to the subject of lobsters. I understand that there are members present from States where no lobsters are propagated; but it is an important industry in Maine, New Hampshire, and I suppose somewhat in Rhode Island.

Commissioner Hudson. Yes, and Connecticut, too. If you will excuse me a moment, I would like to say that one of the provisions in our statutes says, "The governor shall appoint two persons to be shell-fish commissioners, who shall confer with the fish commissioners of the New England States." That is the reason I came here.

Commissioner Hodge. I move that we have an annual meeting, wherever it may be most convenient to the commissioners, for the purpose of talking over matters of interest to our different States in regard to the cultivation, propagation and protection of our fish and game.

Commissioner Hudson. I would suggest, to those who met here years ago, and recollect how exceedingly interesting it was to have Mr. Atkins here, — formerly fish commissioner of Maine, a practical fish breeder, and one of the most intelligent and successful breeders, — that he be included.

A motion to this effect prevailed unanimously.

The Chairman. Now, gentlemen, where shall the meeting be called?

It was unanimously voted that the annual meetings be called, until further action, in the city of Boston, at the State House, at such time as the chairman may decide on, and that the meetings be called by the chairman of the Massachusetts commission. At the suggestion of Chairman Brackett, it was also voted that he be given authority to invite ex-commissioners and such persons in New England as are interested in fish and game protection, and all persons who would be likely to impart information to the meeting.

Lobsters.

The Chairman. I have brought up the question of lobsters. I am well aware, Mr. Stilwell, that our State has become the dumping ground, to a considerable extent, for illegal lobsters from your State. We are doing all we can to prevent it. The law of Massachusetts, as it now stands, forbids the taking or possession of any lobster less than ten and one-half inches in length. It also prohibits, the year round, the possession of any egg-bearing lobster, under a fine of from ten dollars to one hundred dollars, or three months' imprisonment. The result of that law has been very remarkable. It has been in force only two years, but our shores are swarming with small lobsters. We have a system of patrols from one end of the coast to the other, stopping the carrying of lobsters to New London, New York and other places where they have been smuggled. We have this year planted upon the coast one hundred and thirty-eight million lobster eggs. Certain parties have resorted to every possible means to evade the law. The last trick devised to evade the law was to put into cars — which fishermen are obliged to have marked — salable market lobsters. You go to the cars and look around, and everything is apparently all right. But you look around still further, and some distance off you will see a little chip floating on the water. If you watch it you will find that it doesn't move much. If you take hold of the chip, you will find a string attached to it. If you pull up the string, you will find at the end of it a car with from one hundred to one hundred and fifty egg-bearing lobsters, as well as short lobsters. We captured fourteen thousand seven hundred such lobsters in three weeks, for which no owners could be found. Smacks would come on from New York, would load with marketable lobsters, and just at night these cars attached to the chip would be pulled up and taken aboard. We have broken up the traffic of all the smacks except one. There is one that runs to No Man's Land

which is very difficult to break up, for this reason: it is out at sea, and with a perfect bird's-eye view all around, a smack would come up there and load with marketable lobsters, wait until everything was clear, hustle on the others, start, and get three miles out from the shore before we could reach them with a steamer. We shall, however, do something to stop this. In regard to the illegal lobsters that were sold here, we have nearly broken up the sale. Perhaps no law in Massachusetts is at present more thoroughly enforced than the lobster law. Lobsters pass from your State (Maine) through this State in transportation. There are any quantity of short lobsters in barrels that are in transit through the State that we cannot touch.*

Commissioner Stilwell. I regret that our coast commissioner is not here. He is a very effective and energetic man.

The Chairman. I judge so, from some things I have heard.

Commissioner Stilwell. He is doing a fine work. We are fully aware of the assistance that Massachusetts is extending to us. It is hard to fight against New York.

The Chairman. I will say further that we (Massachusetts) have made between twenty and thirty arrests this summer, and have convicted all but one of the parties.

Commissioner Stilwell. We fully appreciate all your efforts.

The Chairman. The jury that we brought one case before was thoroughly in sympathy with the lobster men, and of course we failed to convict. We have obtained nearly three thousand dollars this year from convictions. We are pursuing this policy at a considerable expense. We are patrolling the coast from one end to the other. I think nothing is more promising at the present time than the question of protecting lobsters. In a few years we will probably see the effects of it. There was an increase of fifty-four thousand dollars last year over the year before, in the value of marketable lobsters.

Commissioner Chalker. Mr. Chairman, I would like to inquire about your method of propagation. You spoke of planting lobster eggs.

The Chairman. We hatched lobsters to a considerable extent. It is very simple and easy to do it by putting them into boxes. We have found, however, that it is just as easy to take those lobsters, plant them in depleted waters with the eggs on them, and hatch them in that way. We have a close season on egg-bearing lobsters at all times of the year. I will state another thing which may be interesting. Lobster spawn or eggs are found upon

* A recent decision of the Supreme Court makes it as much an offence to have in one's possession short lobsters caught outside of the Commonwealth as those caught in the State's waters.

lobsters more or less during the whole year. We have proved beyond a question of doubt that, no matter at what time of the year the eggs are deposited, they do not hatch until the water reaches a temperature of fifty-five degrees. In other words, if the lobster deposits its eggs in December or November, it carries them into the spring, until the temperature of the water rises. In these experiments of which I speak, we caught egg-bearing lobsters, put them into cars, kept them, took the eggs from them every week, and watched the development with a microscope; when the water reached fifty degrees you could see a rapid development, and at fifty-five degrees they burst their shells and were gone.

At 12.30 a recess was taken, while the commissioners called on Governor Russell Returning to Room A, a conference was resumed.

The Chairman. Informally, as a matter of interchanging ideas, we will discuss the game laws. I should be glad to hear from Mr. Stilwell in regard to the game laws of Maine.

Game Laws.

Commissioner Stilwell. I do not know that I have anything to say, unless you wish to discuss some changes or proposed changes, or do something of the kind. As commissioners of Maine we are impressed with the wonderful success of our game laws, from the small protection we have been enabled to extend in the propagation of deer. The rapid increase of deer in Maine is a matter almost of astonishment. Our laws do not allow us to extend much in the way of the propagation of deer. Yet the deer are everywhere, particularly in the vicinity of the largely inhabited towns. It is but three or four weeks ago since a deer was caught in the city of Bangor. It was headed off on the bridge, jumped over the bridge, was pursued in a boat and brought into the boat alive. It was taken out of town in an express wagon at night, and carefully turned loose again. So it is throughout the State. It really is encouraging. It seems to me that in the State of Massachusetts you have forests enough now to cultivate the deer.

The Chairman. Yes; we have a few deer on the Cape now.

Commissioner Stilwell. There used to be a place up near Wachusett and one in the vicinity of Danvers, which would be admirable places for this work. Deer are very easily bred. It is difficult to drive them away. People are complaining that the deer are beginning to trespass on their garden patches. They are almost domesticated.

The Chairman. I would say, Mr. Stilwell, that there are a few deer left in Massachusetts, down on the Cape. The State prohibits the killing of them. But there are two laws on the Cape: one is the law of the Legislature, which forbids any one killing them; the other is the unwritten law, which allows the natives to kill them and keeps everybody else from killing them.

Commissioner Stilwell. Our greatest obstacle is the dog. If we can prevent the dogging of deer, it will be an excellent thing. It is a very difficult thing to do, however. We have more fighting on the subject of hunting deer with dogs than almost any other one thing, and it causes us much trouble. But you cannot preserve the deer if you permit dogging. There is no compromise at all there. The deer, when pursued even by the smallest cur, will run to a man for protection. When snow is on the ground deer will run up to you, crowd against you and push you over in perfect terror, when pursued by dogs. A great destruction of deer takes place in Maine. Poachers go out in the deep snow armed with nothing but a butcher knife and a cur dog, and they can go up to the poor, bleeding, terror-stricken creature, wade up to it on snow shoes, and cut its throat. I think deer could be bred in Massachusetts without the least difficulty, particularly in the vicinity of Wachusett. The extermination of the moose in Maine seems possible. A low type of men have come to Maine, calling themselves "sportsmen." A short time ago a Boston man came upon some cow moose with two calves. There was a bull moose in the group. It was with great difficulty that the Boston man could be prevented from shooting a cow moose. The case was all the more aggravating because the hunter had already killed a magnificent old bull, which was all that the law allowed him to do. Well now, gentlemen, that is too frequent a type of the so-called "sportsmen" who come to our woods. It would seem to me that an ordinary human being would not shoot an old cow moose, and yet it would have been done in this case. A very prominent sportsman, three years ago, was fined for shooting a cow moose with her calves by her side. The meat was worthless. He merely took off enough for one meal. We caught him fairly, and fined him one hundred dollars; but that fine was not in proportion to the offence. The low type of sportsman is illustrated by the man who catches a salmon on the fly and then goes and sells it; yet we have such men. I have seen such men in Bangor, catching salmon with a fly, then taking it down to the Bangor market and selling it for one dollar per pound.

The Chairman. Mr. Hodge, how is it in New Hampshire about deer?

Chairman Hodge. I am happy to say that, as far as our State is concerned, we have made the thing the success that my friend Mr. Stilwell has related in regard to Maine. With the little protection that we have been able to extend to our deer and moose, they have increased far beyond our expectations. I can also say that within the city limits of Manchester a wild deer was shot down this very fall. It is not an uncommon thing to see them far out from the unbroken woods scattered all over our State. In regard to the dogging of deer, while unfortunately our State allows the use of dogs for a limited period, we have so far met with no serious trouble from them. I should be glad if it was entirely stopped. The greatest evil that I see from running deer with dogs is this, — the majority of the deer killed are does. The buck, conscious of his strength, throws up his head and away he goes, and leads the dogs a wild-goose chase. The doe, being more timid, takes to the first water it can reach. Eleven deer were killed in one pond I know of, and they were all does. I do not imagine hounding drives deer away from their haunts to any great extent, because I have taken particular pains to question parties who have been acting as guides for the last few years. They all tell me that they will start a buck from a certain pond, the dogs will run him from that pond, and they can go out the next day and start him from the same place. Last winter deer were as thick as rabbits in our woods. This fall sportsmen report to me that the woods are full of deer, and they never imagined there were so many. One of our detectives told me last spring that there was one yard upon the Dead Diamond, extending for some five miles, that was literally full of deer, and in travelling from one place to another on his beats he had to take a circuit around these large yards, to prevent going in and disturbing the deer. I asked him how many deer he thought he could kill without any gun. He said, "I can take my knife and go in there and kill fifty deer a day without any trouble." One of the guides there said the deer were so tame that they would come into his yard, and he fed them with gingerbread out of his hand. That simply shows how quickly they learn their friends, and know whom to avoid. Moose are on the increase in our State. There have been a great many more moose seen by the fishermen this past season than for many years before. I am happy to say that the time has gone past when sportsmen will come into our State and murder moose as formerly. Two or three years ago a well-known New York party came to New Hampshire and killed three moose in one month in the close season, using what little meat he could in his own camp; the rest was sunk in the lakes. That man has not been

back to New Hampshire since, and it will be well for him that he does not come.

Commissioner Stilwell. Are not those moose being driven away? Are not the surveys for the new railroads doing it? In our State they have driven the moose out of their old fastnesses, and they go trooping over the State. The other day I heard of four being seen in one group quite near a populous city. Is it really an increase of moose? Are they not old moose that have been driven out of their old fastnesses?

Commissioner Hodge. I cannot tell where they came from.

Commissioner Stilwell. One of the eminent sportsmen of this State killed a famous moose some years ago, but he told me it cost him one hundred dollars. Now, close to the place where he hunted that moose, a cook from one of the camps went out this season and shot a monstrous old bull moose. And so it is. They seem to be trooping, frightened, all over the State. I am inclined to think it is the new railroads that are driving them out.

Commissioner Hodge. You don't consider such causes destroy your deer?

Commissioner Stilwell. No, sir. The destroyers of deer in our State are the hunters on the water. These fellows simply lie on the surface of the lake in their canoes. They turn the dogs loose, and the deer rush for the water. They know perfectly well that the scent is lost the moment they strike the water. These lakes are slaughter-houses. You can kill every deer there is by sitting in a canoe on any of our lakes. The dogs will drive the deer into the water. Our State is dimpled with lakes. You cannot go ten miles in any direction without coming upon a sheet of water. There is where these fellows slaughter deer.

Commissioner Hodge. I was in your State last year, and camped on a little pond. There was no time from daylight to dark but that I could look out and count from one to twenty wild deer feeding by that pond.

Commissioner Stilwell. The moose are very plenty in the State of Maine, but I question whether we have a right to rate them as a part of our game. They are merely driven in there, frightened in, emigrating from New Brunswick.

Commissioner Hodge. But you have large tracts of forest entirely clear from the railways. Why don't they take up their permanent abode there?

Commissioner Stilwell. We had, sir, in the Dead River section and the head waters of the Kennebec, but now the railroad surveys are going through these; they are everywhere, and the railroads carry the sportsmen where they never went before.

There are large camps there, supported at a great expense by wealthy men. We don't object to them. Your true sportsman would scorn to shoot a doe.

The CHAIRMAN. You are aware, I suppose, Mr. Stilwell, that there is in some States a law that prohibits shooting a doe or a fawn at any season of the year.

Commissioner STILWELL. They shoot them in our State. We had a man up the other day on a technical question, but had to let him go. He said, "I shot the doe, sir, and there were two fawns." I said, "Two young ones?" "Yes," he said. "But were they wounded?" "Oh, yes; they were wounded." "But a young fawn usually goes with the old one?" "Sometimes after it is wounded." "Why did you shoot them?" "I had to; they were around there, and when I dropped the old doe they would not leave." "Couldn't you drive them away?" "Oh, yes; but they usually stand there half stupefied, looking at the mother on the ground." "You need not have shot them." "Well, sir, I shot them." And he did. The biggest one weighed seventy-five pounds or less. Such men will shoot anything. I suppose one must call them men. Our woods are literally crowded with game. The difficulty is to prevent its all being shipped away. We cannot get a law forbidding the exportation of game. We have a law that allows a sportsman, when he has killed his legal number of deer, to take them to his own home.

Commissioner HODGE. Isn't that right?

Commissioner STILWELL. Yes, sir; and we try to make it right. We appeal to the spirit of the man, if he has any, and we say: "Mark your name legibly on a card, tie it on your game and go with it, take it to your own home." Well, he takes it, goes to Boston and sells it.

Commissioner HODGE. Paying the expenses of his trip, as I saw reported in a sporting paper the other day.

Commissioner STILWELL. Yes. Men will do it. It is so with salmon. Men will kill their salmon legitimately, and then sell them.

Black Bass.

Commissioner HODGE. Mr. Chairman, although we have passed from the subject of fish, there is one fish that we consider of a good deal of importance in our State that was not mentioned, and that is, black bass. They spawn at about the same season, and are in season for capture at the same time almost universally throughout the New England States. In looking at the laws of the different States, I find considerable difference in the time of capture of this fish. We regard black bass as one of the most

important fish that we have. Previous to the introduction of that fish into our State, during the midsummer we had but little to offer that would induce sportsmen to travel any considerable distance. All we could offer them was a little pickerel fishing, or perch, or hornpout, or something of that kind, unless they went way to a mountain pond, where they would get a few trout. But the black bass comes in the right time, when our State is crowded with summer visitors. The bass is in his prime then. I am bound to say that there is no fish affords any better sport in the long run than black bass, except the land-locked salmon. He is fight from the word go. As a table fish, properly taken care of, he is a most excellent fish, there is no doubt of that. I know people — perhaps some of you, gentlemen — may differ from me in regard to that. But let any person properly take care of this fish when first caught, and it can be cooked in almost any way and is a palatable fish, either boiled, baked, fried, or put on the gridiron on the coals. I, for one, should be glad to see an effort made in the different Legislatures looking to a uniform law in regard to the open season for this fish.

Commissioner Brainard. What is your season?

Commissioner Hodge. Our season opens the fifteenth day of June. That may be considered a little early by some, but we have found it to work satisfactorily. June is almost the only month in which sport can be had with a fly for black bass. During most of that time it will take a fly as readily as a trout.

The Chairman. The Massachusetts law is July 1 to December 1.

Commissioner Stilwell. We do not protect the black bass. We protect the white perch. Our citizens have clamored for black bass. I got one order from the country, saying, "Send us some black bass eggs by return mail." I could not fill that order. Another man back in the country said he must have some black bass for his pond. He nagged us almost to death. Finally we supplied him. It was two years ago. I met the man afterwards, and he said, "Mr. Stilwell, can't you give us some land-locked salmon?" I said, "Why, sir, you have been nagging us for black bass." "I know it, sir," said he; "but we do not like them, and the pond is full of them." "What do you want me to do?" I asked. "Well, sir," said he, "we want some land-locked salmon." "Haven't you got black bass enough?" said I. "Yes, sir," was the answer; "but we don't like them. Can't you take them out?" "No," said I, "being a commissioner, I had rather not take the contract." There is a general anathema about black bass in our State.

The Chairman. That was the case in our State, but there is a change now.

Commissioner Stilwell. I can show you any quantity of black bass in the vicinity of Bangor. People come from New York during the summer, fishing for black bass; but our people won't touch them. I have never seen a finer show of black bass than our waters yield. It is a glorious fish if properly treated. A fish that is drawn out and allowed to die in the sun isn't good eating, not even trout or salmon. But you skin a bass, take out the backbone, put a little salt on it, put it in the cellar, and broil it the next day, — why, black bass is fit for a king, provided that king is a decent Republican or Democrat, I don't care which. But it is a glorious fish and glorious food when properly cooked and treated.

Commissioner Hodge. You are right.

The Chairman. Your own opinion is that the bass has become a source of revenue to your State?

Commissioner Stilwell. Yes, sir. It is a good fish if it is treated with common-sense. I never cared for carp. It isn't a fish that you can take out of the water, put into the frying-pan and eat.

Commissioner Downs. I fully concur in what Messrs. Stilwell and Hodge have said about black bass. I think it is the king of all game fish for its size. There is no table fish that excels it, if properly taken care of. Break their necks when you catch them, cover them in the shade, keep them there during the day, take them out the next morning, and the black bass is a dish fit for a king or anybody else.

The Chairman. Not only is the black bass a fish that will thrive more abundantly than almost any other fish that you put into the water, but they are splendid for sportsmen. There is no better sport in the world than taking them with a fly. If properly kept and cooked, they are as good a fish as anybody wishes to eat. We have had to fight against prejudice here in Massachusetts. Let me say a word here in regard to carp. They are warm-water fish, and thrive best in warm and muddy water, where they grow very rapidly. They are vegetable feeders. Of course it costs nothing to raise them. If you take a carp out of a pond a couple of weeks before you want to use it, put it into cold spring water and keep it, and then take it for table use, you have got a good fish, without any dressing cooked with it. But take it out of the pond and put it right on the table, as most people do, and I cannot conceive how anybody can eat it. I have tried them both ways, and have studied them very carefully.

Commissioner STILWELL. Just remember what Mr. Brackett has said. That is exactly what the country people do with the carp. It has to be taken out of that muddy, filthy water, put into a box made of slats and kept in running water for a week or ten days. A fish will take the flavor of any water it is in. I once had the misfortune to try a salmon that was captured in the Penobscot. I was catching some with a fly. This fish was hooked in the belly, badly torn, and they said "Kill him." We had him cooked for the next day's dinner. When the next day came every one was on the *qui vive* for that salmon; and at the first mouthful every knife and fork dropped. It tasted like bog mud. Almost any fish will take the flavor of the mud. The catfish, or humble hornpout, next to the trout, is the best fish there is. He is caught and kept in cold ice-water for a number of days at the hotels where they make a specialty of that luxury. You treat the black bass in that way, and it is an improvement even upon the possibilities of the carp.

Commissioner HODGE. Then every man has got to have a little stream on his own grounds, if he is going to eat carp, hasn't he?

The CHAIRMAN. No, you can put them into well water or rain water. Many years ago I ponded some shad for the purpose of saving them to get the spawn. Mr. Theodore Lyman, who was then on the commission, was out to look at the fish, and we gave him a couple to take home. The water we had put them into was soft rain water, and muddy, and he could not eat them. In twenty-four hours the flavor of those shad was so changed as to make them worthless.

Commissioner STILWELL. That is so.

The CHAIRMAN. It is very important, in the matter of fish, to place them for a few hours or days in water that is of the purest character, if you want a good flavor to them.

Commissioner DOWNS. There is no fish that will go ahead of black bass, in my opinion.

The CHAIRMAN. Mr. Hodge will state to you some things which may be interesting.

Commissioner HODGE. I would not recommend or advise any commissioner or any party to introduce black bass into small trout ponds, because in such cases there is only a limited amount of food there, and the smaller and weaker fish would go to the wall. But in our large lakes, like our Sunapee Lake, in New Hampshire, we can raise them with trout and salmon, the three together, and they don't interfere with each other.

Commissioner BRAINARD. I have tried it, and I know it is so.

Commissioner HODGE. One of the elements that has led to our success at Sunapee Lake was the introduction of black bass. Pre-

vious to that time that lake was not known or noted as a trout lake, not even by the local fishermen. A few trout used to be caught every year. During the breeding season, when they came up from the deep water, local parties used to secure a great many trout. At that time the lake was infested with swarms of yellow perch. I am very glad to say that the black bass have destroyed those fish, which I consider the worst enemy to trout or salmon that swims. Immediately following the disappearance of the perch there has come a marked increase in the trout of both kinds. I say both kinds, because we have in that lake a fish which has only been known to scientists within the last few years, now known as the *Aureolus*, or golden trout. They are essentially a lake trout. They do not enter the streams for the purpose of propagation, but they spawn in the lake; and there has been a very marked increase in this case, as well as of brook trout. Of course I attribute a part of that increase to the work we have done at our branch hatchery; but it would have been impossible for us to have achieved the measure of success that we have, had it not been for the destruction of the yellow perch in the lake. I also know, from friends of mine in Ontario, that there are lakes there in which you can cast for your bass in June, taking a trout at one cast and a bass at another, the same as you can in Sunapee to-day. I have known black bass for many years, have taken great pains to ascertain the food on which they live, and I never yet, from any of our lakes where trout exists, found a trout or a salmon in the maw of a black bass.

Commissioner Downs. You are speaking of the small-mouthed black bass?

Commissioner Hodge. I am.

Commissioner Chalker. Within the last few years in Connecticut there has been a crusade against the black bass. At the farmers' clubs and in the farming community one of the principal things discussed is how to get rid of the black bass in small ponds and lakes. They tell some very different stories. We sent one man some two hundred to put into a little lake that was stocked with pickerel. He subsequently came before the commission and wanted to know how he could get rid of them. He said he wanted the restrictive laws taken off of that pond by the State, for when we put the black bass in he had a nice lot of pickerel there, but now the pickerel had all gone.

Commissioner Downs. That is one of the best arguments for it. It shows that people go and catch them if they can find out where they are.

Commissioner Chalker. This year we have one application

for black bass, which we are intending to fill. The Housatonic Water Power Company put in a very large quantity a few years ago, and they had become a very desirable fish in that locality. Since the dam broke away, last March, we have had an application to stock that stream with black bass, which we are intending to do; but that is the only application we have had for black bass for eight years.

The Chairman. It is a far better fish than the perch. I prophesy that the time will come when it will be one of the most popular fish that we have. I stocked one pond with black bass here, and the parties who were interested in it wanted to know what it meant. They said they couldn't catch any black bass. I sent a man there who was experienced in catching black bass, and he found the trouble in an hour, and showed the people how to catch them. Red perch is one of the best baits for black bass, but the bass will destroy the perch. I don't know any fish in our waters that is more destructive to the trout or other fish than this little red perch. I do not know of a meaner fish.

Commissioner Stilwell. The yellow or red perch is a very destructive fish.

Commissioner Hodge. One man said to me, "Down in our town they (the red perch) destroy the hornpout;" and he thought they ought to be exterminated on that account.

Commissioner Downs. When I was a boy I lived upon the Housatonic River, and I used to go out and catch twenty-five or thirty yellow perch from it. To-day I couldn't catch one there. That is due to the fact that we introduced the black bass.

Commissioner Hodge. Has it been a great loss?

Commissioner Downs. I think it has been a great improvement, and so does everybody else. I had rather go fishing for bass. Take it in the summer time, when the factories are shut down, and the river is lined with people fishing for bass.

Commissioner Stanley. Speaking of bass, we have several ponds in our State into which bass have been put. In every case when the bass was first put in there were no trout. Now, within a few years, they have been catching trout. These ponds that I speak of had the yellow perch in them. It is the worst fish there is. I agree with you perfectly on that point. The bass have cleaned the perch out, and the trout are coming back. In our State we have no protection for bass; but still, at the same time, if they are not caught and sold for market we do not really need any. We have splendid fishing for bass, and there is no close time on them. We catch them at all seasons. There is plenty of bass in all our ponds that I know of.

The Chairman. As a matter of sanitary regulation, if nothing more, don't you think that all fish should be protected during the breeding season?

Commissioner Stanley. Yes, I think so; but there isn't so much harm in not protecting black bass. I do not think you could pass such a law in our State.

The Chairman. I do not think a fish is fit to eat during the breeding season.

Commissioner Stanley. They are not. I do not think they are fit to eat before July.

Commissioner Downs. From May 1 to June 11 is our close season on black bass.

Commissioner Hodge. In New Hampshire we not only have a close season but a size limit of eight inches.

Commissioner Atherton. We will raise you two inches. Up in Vermont the size limit is ten inches.

Commissioner Downs. The black bass is certainly a very delightful fish to catch.

The Chairman. I think no man who is a sportsman can have any question about that.

Commissioner Hodge. Has there been any effort to introduce striped bass into our fresh waters?

The Chairman. I can answer that question. Mr. Tisdale of Wareham put some striped bass into what was called Flagg's Pond. Two or three years ago an immense fish was found there, that weighed, I cannot say just how much, but some fifty or sixty pounds, and I don't know but more; and it was a striped bass. They spawn in fresh water. They were formerly abundant in the Merrimac.

Commissioner Stilwell. They are almost extinct in our rivers; we used to catch them in the Penobscot almost every year, but it is very rarely that we catch them now.

The Chairman. I once visited a tide-water gate in your State (Maine) where a school of striped bass had run in when the gates were open. The gates were shut, and the fish were frantic to get out. There were some seventy-five or one hundred of them, I should think. There were striped bass in there that would weigh sixty pounds.

Commissioner Downs. The New York Commission are talking of stocking Saranac with black bass.

Commissioner Chalker. This last year in Long Island Sound there has been an unusual quantity of small striped bass taken, and this fall upon Montauk Point they were catching them by the ton, — a thing that has not been done before for some six or seven years.

Commissioner Downs. They are fine game fish to catch with the hook and line.

Commissioner Southwick. They are not much more plenty this year than last with us.

Commissioner Chalker. They are plenty with us.

The Chairman. The destruction of striped bass has been brought about by gill nets and purse seines in the tidal waters with us.

Commissioner Hodge. Are they destructive fish to others?

Commissioner Chalker. They are very destructive fish.

Commissioner Stilwell. We have a plentiful stock of good pond fish now in Maine. I do not know that we have anything more to wish for. I am one of the few having a high esteem for the black bass; but the people of Maine are down on them.

Commissioner Hodge. They will get over that.

The Chairman. That will pass away.

Commissioner Stilwell. When you try to catch a black bass, you have got an honest and square fight with him.

Commissioner Downs. He never gives up, either.

Commissioner Stilwell. It *takes* a good fisherman and *makes* a good fisherman to catch black bass. There is no better angler than your experienced black bass fisherman.

It was the sense of the conference, that, owing to the wide difference in climate in the New England States, uniform laws would not prove satisfactory to all concerned.

Adjourned, to be called together at the discretion of the chairman of the Massachusetts Commission.

[C.]

REPORT ON THE LOBSTER.

By S. Garman.

Museum of Comparative Zoölogy,
Cambridge, Mass., Dec. 17, 1891.

Hon. E. A. Brackett, *Massachusetts State Fishery Commissioner.*

Sir: — Yours, with inquiries regarding the conclusions reached in the study of the lobster, is at hand. While unavoidable delay in the drawings prevents placing the complete matter in your hands, it is quite possible to give you in a few words a general idea of the results and their bearings, such as will no doubt sufficiently answer your questions.

According to the arrangements made, some of the eggs from berried lobsters kept for the purpose were sent me at regular intervals through an entire year. These eggs were at once examined to note their progress in development, and they were then preserved by various methods for future studies and comparisons. After their young were hatched the females themselves were dissected, to observe the condition of the ovaries, and to determine the time when another lot of eggs might have been expected from them. As our work began in midwinter, it was necessary to follow certain specimens up to the hatching, and then to take others to complete the series from the laying. Eggs supplied me as freshly laid were so far advanced as to indicate that fertilization had taken place before they were placed under the tail of the lobster bearing them. The time and process of fertilization has not been discovered; but in all likelihood the marine lobster does not differ greatly in these respects from its fresh-water relatives, the crayfishes. In the case of the latter the male seeks the female some time before the eggs are laid, and deposits the fertilizing matter on the under side of her body, near the external openings of the oviducts, where it adheres for a time as a whitish mass. How the fertilizing elements, the spermatozoa, come into contact with the eggs and enter them, has not yet been observed. The development of the embryo in eggs laid on the seventh or eighth of August was so rapid that on the third of September the eyes were visible as thin crescent-shaped spots. As the waters grew colder the progress was retarded, until the changes were very slight indeed. This condition was maintained throughout the winter, and it was only when the summer temperature was reached that rapidity of advancement was again

to be noted. The young began to hatch on the fourteenth of July; all of the eggs on a female seeming to be about equally advanced, the entire brood emerged at very nearly the same time. Examination of the ovaries, after their young had left, showed that the females would not have laid eggs again for a year; that is, not before the summer next following that in which they had hatched a brood. In other words, the dissections proved that the lobster lays only once in two years, hatching a brood one summer and laying eggs the next following summer for another brood. The time required in the development of the embryo is so long as to preclude hatching the eggs under ordinary circumstances during the summer in which they are laid. Artificial conditions might readily be brought about, by heating the water in which specimens are kept, which would hasten the progress and greatly shorten the period between laying and hatching; but normally the winter temperature induces an almost complete suspension of advancement.

By the small number of specimens kept, it was not possible to fix the lengths of either the laying or the hatching periods. This, however, may be approximately done in connection with observations made by the United States Fish Commission. It must be borne in mind, in this connection, that the seasons south of Cape Cod begin earlier and last longer than in Massachusetts Bay, and that farther north they will be still more contracted. Variation must also be expected in different years, as the seasons are earlier or later, and in different localities, as the waters are warmer or colder. Though the bulk of the laying or of the hatching in any particular year occurs within periods of two or three weeks, probably four-fifths of either is finished in less than a fortnight; to make allowance for the early years and for the late ones, and to include the early and the belated individuals, it becomes necessary to considerably extend the general periods.

From all that has been gathered we may summarize as follows: (1) the female lobster lays eggs but once in two years, the layings being two years apart; (2) the normal time of laying is when the water has reached its summer temperature, varying in different seasons and places, the period extending from about the middle of June till about the first of September; and (3) the eggs do not hatch before the summer following that in which they were laid, the time of hatching varying with the temperature, and the period extending from about the middle of May till about the first of August.

I have the honor to be, very respectfully, yours,

S. Garman.

[D.]

[As the question of the protection of the fisheries in Buzzard's Bay is one of great interest to the people in that vicinity, and is likely to come before the Legislature this year, we give place to Mr. Palmer's statement of the case, which is valuable on account of its history of the efforts and legislative acts for the protection of these waters.]

Petition of Lilburne Hiller et al. to amend Chapter 192, Acts of 1886.

[Hearing of Wednesday, March 11, 1891.]

Mr. Chairman and Gentlemen : — Whatever affects the general question of the protection of the fisheries may be and should be applied, so far as possible, to fisheries in Mattapoisett or any other of the towns bordering on Buzzard's Bay.

If Mattapoisett or Fairhaven could carry on a war of extermination against the fisheries, and injure nobody but themselves, we should not be here to interfere. We might think it very foolish in them to kill the goose that laid the golden eggs ; but it would be their goose, and we should leave them to cook it as they pleased. But it is not so. Not a fish can be taken out of season in the nets and pounds of Mattapoisett, not a single pound of unmarketable fish can be caught and thrown upon the land, that does not injure the fisheries of Marion, Wareham, Bourne, Fairhaven and New Bedford. How much greater, then, is the injury to all the other towns, and their own besides, when hundreds of barrels of fish are taken either before or at the time of spawning, and hundreds of barrels of young fish are used to fertilize the land or thrown upon the beach to rot and waste?

In his opening my brother Myrick gave us the history of the legislation on this question, going back as far as 1870, and continuing down to the present time. It cannot be out of place if I call the attention of the committee briefly to what has led to all the recent acts of the Legislature on this subject. So great had been the decrease of the more desirable food fishes of our seacoast during the ten years prior and down to 1870, that simul-

taneously both in this State and in Rhode Island the attention of the Legislature of both States, without concert of action, was called to investigate the cause, and, if possible, to provide the remedy.

By request I drew up the first petition. It was headed by Hon. Thos. D. Eliot, and with those in aid, was signed by 3,023 names. There were 62 remonstrances, with 7,958 names. The petition covered all sorts of pounds, weirs, nets and seines, and the prayer was for their utter extinction and annihilation. In scope and extent the petition reached all the shore waters of Massachusetts.

I appeared for the petitioners, and the Hon. George Marston and two other eminent lawyers appeared for the remonstrants. The hearing was commenced February 15, in the blue room, which was packed with witnesses and interested parties. The hearing was continued through eighteen sessions of the committee, several of which were held in the evening to as late as eleven o'clock.

The committee reported unanimously "leave to withdraw." On the 19th of April the report came up in the Senate for acceptance, when Captain Atwood of the Cape district, chairman of the committee, made a speech in favor of the report, which, when printed, occupied eight pages of the report of the commissioners of that year. Notwithstanding this unfavorable report, the testimony on the part of the petitioners, and the general impression which was produced by the hearing, effected the most happy and unexpected results; for in that very year the committee reported a bill, and an act was passed which is now a law of this Commonwealth, and is to be found in chapter 91, section 79, of the Public Statutes. This is the act referred to by my brother Myrick, which prohibits the use of nets or pounds in the waters of Buzzard's Bay northerly of a line from West Falmouth through Bird Island light to Great Neck in Marion, and which has been pointed out to this committee on the map.

Not only so, but this hearing waked up our Commissioners on Inland Fisheries; and Mr. Theodore Lyman, then chairman of the Board of Commissions, in three able articles in three separate reports reviewed and severely criticised the speech of Captain Atwood, and concluded an exhaustive review of the subject in the sixth annual report in 1872 as follows: "If the governments of the States of Rhode Island and Massachusetts have any forecast, they will see to it that such observations may be made as will furnish them with real knowledge on this perplexed question."

That this warning did not pass unheeded, the committee will observe that, of the one hundred and six sections which make up

chapter 91 of the Public Statutes, relating to inland fisheries, all but ten or eleven have been passed since 1870. Now, if you add to this, the several acts which have been passed since 1882, including this famous act of 1886, we shall see that not only has the policy of the Commonwealth been from year to year more and more in favor of the protection and preservation of our fisheries, but the evidence from all quarters shows that the public sentiment is decidedly averse to all wholesale indiscriminate methods of taking fish. It is true that, in some under-hand way, an act was smuggled through which permitted the setting of gill nets in the waters of Mattapoisett; but it was repealed the next year.

Will this committee and this Legislature take a step backwards now, especially when the experiment is being tried, and so successfully, that we are now in a fair way to settle the question forever as to the possible exhaustion of sea fisheries by overfishing?

We had come to about this pass, that it was not possible to have fewer fish and have any. There was no longer any question that fish had become scarce in the waters of Buzzard's Bay. It was not only proved by almost every witness who was an intelligent observer, but it had become notorious. Unless a man is interested in some pound or net, you cannot find half a dozen intelligent persons, on the whole sea-coast, who doubt it.

All the ways of accounting for this have been exploded, one after the other, until nothing is left but the ingenious devices of seines and nets. That the water is impure, or their food had become scarce, gave way to the theories of the mysterious disappearance and the ravages of the blue-fish. It was said, and is said, that the fish go and come, nobody knows where or how. It is very certain they did go, and do go now, as soon as seines and nets are set, and wherever they are set; and generally they go to New York packed in ice, but they don't come back, — and this is the *mystery* of the disappearance.

The blue-fish theory took in Captain Atwood, and nearly upset the well-established opinions of Professor Baird; till it was discovered that, when the blue-fish had been driven off by the steamers with their great sweep nets one hundred feet deep, the other fish didn't come back; that they both went together, and for the same general reason.

Then the seiners were driven to say that they never took spawning fish. It is only within a year or two that any seiner or trapper would admit that they had ever seen spawn in a blue-fish. This was another *mystery*. They could only say that they must spawn away off in the Atlantic Ocean, as there was no place where they could cast their spawn in Buzzard's Bay. One theory was as

good as another, and served its turn in exactly the same way. They made elastic reports to the commissioners, which would shrink or stretch to suit a present purpose.

We find just the same theories advanced to you now in the Mattapoisett case. We are going over the old ground year after year, and find out nothing but that, where you find seines, nets and pounds, you find no fish outside of them; and, where there are no seines or pounds, the fish distribute themselves according to their instincts. Cast their spawn in the shoals and better aerated waters of Buzzard's Bay, that great nursery of some of the best food fishes in the world.

What is asked here now is nothing but for the monopoly of fishing; that a half-dozen men may scoop up the most of the fishes that come in to the shore at Mattapoisett, no matter what happens to the fisheries, or to the great majority of the fishermen who depend upon them, wholly or in part, for their living. But worse than this, — they ask you to permit them to net these fish when they first come in in schools, that they may ship them off in barrels, flooding the markets for a short time, only to deplete the waters for the remainder of the season.

We cannot believe that you will open the law of 1886 for any such considerations as have been presented at this hearing.

That very observing, intelligent and disinterested witness, Gerard C. Tobey of Wareham, has told you the whole story. He has shown to you the value of the fisheries to the eighty or one hundred boatmen of the bay, and you have been told how valuable the otherwise valueless shore property of the bay has become from the attractive seductions of fishing and bathing. If the fisheries can be restored, as no doubt, on account of the wonderful fecundity of fishes, they can be, by protection, you cannot doubt but that villages and towns will grow up upon our shores, and their wealth and that of the Commonwealth will be largely increased, and the pleasures and happiness of the people promoted. Will you sacrifice even the hope of this to satisfy the greed of a few individuals?

Of all the sources of wealth and food in most equal distribution and cheap supply, the fisheries of Buzzard's Bay afford the most; and we appeal to you in confidence that they will be protected and preserved. We cannot afford to encourage monopolies in fishing, at so great cost not only to the fishermen but to all the people on the shores of our beautiful inland sea.

We hope you will give the petitioners "leave to withdraw."

Geo. H. Palmer.

[E.]

REPORTS OF DEPUTIES.

MARION, Dec. 2, 1891.

To the Commissioners on Inland Fisheries and Game.

GENTLEMEN: — In submitting my report, I would say that, although the laws for the better protection of the fisheries have been fairly well respected, there have been some violations, and we have succeeded in taking into court parties from Gloucester, Salem, South Boston, Manchester, Quincy and Wareham, for violation of the lobster laws. The bird laws have also been generally respected, having had but one complaint of illegal quail shooting. I gave the same two days' investigation, but could not find a case sufficient to warrant my entering a complaint. There is a very bitter feeling in this vicinity against the present system of pounds in Buzzard's Bay, and I understand efforts will be made during the coming winter to ask for legislation that will better protect the bay fisheries. The fishermen of the towns bordering upon the bay begin to realize that, in order to protect the bay fisheries, very vigorous methods must be adopted; and it is that class of people more than any other who will go before the committee on fisheries and game, asking for the desired change. This to me looks like a move in the right direction; for I firmly believe that, for the welfare of the bay towns, the increase of the fisheries and the prosperity of the fishermen, such laws should be enacted as to prohibit the setting of pounds, weirs or nets of any kind in the bay. I am glad to learn that Mr. Proctor has been doing such good work in Buzzard's Bay and Vineyard Sound; and if the work of this year, with what further legislation is necessary, could be continued for a few years, I am confident those waters can be made to yield abundantly, not only in the hook-and-line fisheries, but the lobster as well. The act of 1891, amending the act of 1890 so as to apply the mutilation of lobsters to the dealer as well as the catcher, has in a measure shown good results, inasmuch as, while there may have been some violations at the summer resorts and beach houses, it has placed a check upon the business in other directions, thereby saving a large number of small lobsters which would otherwise have been mutilated and openly sold in the markets as lobster meat.

Respectfully submitted, JOHN W. DELANO,
Deputy Commissioner, Fish and Game.

Bradford, Nov. 20, 1891.

To the Commissioners on Inland Fisheries and Game.

Gentlemen : — In the work of enforcing the fish and game laws of the State, I have found that there is a general desire among all thinking classes that the laws may be fully enforced ; for, while they observe the rapid increase in the number of those who hunt and fish, and the swift destructiveness of the methods employed in carrying on their work, all right-minded persons are led to acknowledge that due regard must be had for the protection of the parent stock, at the proper season, or the total destruction of certain species of fish and game is certain to follow. A knowledge of this fact has induced many to observe the law, and in consequence but few complaints have reached me this year, as compared with previous seasons. The laws for the protection of lobsters have been made amply sufficient for all practical purposes, and their enforcement has done much towards restoring an industry that was being rapidly destroyed.

In August notice came to me that parties were illegally taking trout in Cold Spring Brook, in North Andover, and that the work was being done on the Sabbath Day. I visited the stream the next Sabbath, by a walk of five miles, and found two men sitting under a tree near the brook. They had forty-one small trout, the largest one being about five inches in length. Their fishing apparatus consisted of a spaniel dog, a shovel, and about two yards of mosquito netting. The water in the brook was low, and the fish had settled into the small pools in the stream. The method of taking them was to dig, and drain through the net. There was evidence of this kind of work for a mile up the stream. I was not able to identify the parties, had no authority to arrest or in any way molest them ; and all the satisfaction my walk afforded me was a chance to reflect on the folly of making a person an officer, without the authority to arrest parties found violating the law.

August 20 I was notified that a quantity of lime in a barrel had been placed in a stream in Groveland, near Hales Mills. This stream has been noted as one where large trout are frequently taken, — a natural trout brook, yet one that has never been stocked. In many places on this stream it is difficult to fish, owing to the thick growth of bushes along its bank ; and, as a last resort to capture the few fish remaining, lime is thrown in ; this kills the fish, large and small, and all that is needed then to secure a few large trout is to step into the stream and pick them up. This method of fishing was the invention of a Scotchman, and Scotland made the penalty for such an offence imprisonment. It

should be such in this State, whereas at present it is a simple fine of ten dollars. It is believed that a more severe penalty might be useful in preventing parties from resorting to such a contemptible method of gratifying their habits of destructiveness. Similar complaints have reached me that work of this kind has been carried on in a stream in Tewksbury (a tributary of the Shawsheen). This stream has been stocked, and for several years has been known as one of the finest trout streams in Middlesex County. I am informed, by one who has fished in this stream, that the whole plant has been ruined by liming the stream, and thousands of young trout have been killed. The question may be asked, Why have not the offenders been apprehended? This kind of work, when done, does not have to be repeated, and, under the law, to convict requires the finding of the offender in the act. The notice comes too late to be of any assistance to us in apprehending the party, and frequently those who know of such depredations, and inform us of them, are lacking in moral courage to take the witness stand in defence of right.

The time of taking trout should be limited to ninety days from the first of April, and all trout taken less than five inches in length should be returned to the stream. The man who has more than ninety days to devote to catching trout will find it to his advantage to fish in some section of the country where trout are more numerous than in Massachusetts.

To place five thousand trout in a stream and then the next year allow those fish to be caught and destroyed simply because they have reached the size when they readily take the hook (and it requires thirty of them to weigh a pound), will never prove to be a successful method of replenishing our streams with sizable trout.

Not long since I was asked, by a gentleman in Middlesex County, why the game commissioners had not been more successful in increasing the number of game birds and animals to be found in the State, as the Commonwealth had been liberal in its legislative enactments. Evidently that was about as far as he had pursued the subject. As the gentleman was an ex-president of a hunting club, and had been a successful importer and breeder of English bird dogs and ferrets for a period of fourteen years, I was able to make a reply to his question by asking another, which was, Has the importation of bird dogs and ferrets been instrumental in increasing the number of our game birds and animals?

It is said that in 1850 the number of trained bird dogs in Massachusetts was less than one hundred; in 1890 the number had increased to exceed sixteen hundred, used only in hunting birds, to say nothing of the thousands of dogs of other breeds used fre-

quently for the same purpose, — while the area over which to hunt had been largely diminished. Annually, in September, these dogs are let loose, followed by more than two thousand hunters, armed with breech-loading firearms, and the work of destruction goes on to the extent that, at the end of sixty days an ordinary hunter is scarcely able to bag so much as a solitary chipmonk in a day's hunting. The hunter who looks at his game-bag and thinks of the game commission and then innocently remarks, What is the sense of a game commission, if it does not supply us with something to shoot? And the deputy commissioner, when invited to a game supper, is equally astonished when he sees a single native game bird brought upon the table. But he is an invited guest, and quietly makes a good supper of fricasseed chicken; and, while he thinks of that army of dogs and hunters who have roamed the State for ninety days, he still continues to wonder how a single bird escapes and manages to live to reproduce its kind; and he is only able to solve the problem on the theory that a goodly portion of the dogs are worthless, and a large majority of the hunters are entitled to a championship as a poor shot.

Respectfully submitted, B. P. Chadwick,
Deputy Commissioner.

[F.]

[Decision of the Supreme Court of the United States, Manchester *v.* Commonwealth.]

MENHADEN FISHERIES IN BUZZARD'S BAY.

Error to the Superior Court of the State of Massachusetts for the County of Barnstable.

[No. 1518. Argued Jan. 14, 15, 1891. — Decided March 16, 1891.]

The act of the Legislature of Massachusetts, approved May 6, 1886 (Laws of 1886, c. 192), "for the protection of the fisheries in Buzzard's Bay," is valid, so far as it relates to the taking of menhaden.

It applies to a vessel which has a license to fish for menhaden under the laws of the United States.

As between nations, the minimum limit of the territorial jurisdiction of a nation over tide-waters is a marine league from the coast; and bays wholly within its territory which do not exceed two marine leagues in width at the mouth are within this limit; and included in such territorial jurisdiction is the right of control over fisheries.

The courts of Massachusetts can lawfully take jurisdiction of violations of such statutes, as against the admiralty and maritime jurisdiction of the courts of the United States.

It has always been the doctrine of this court, that, whenever a conflict arises between a State and the United States, as to the regulation of commerce or navigation, the authority of the latter is supreme and controlling.

Within what are generally recognized as the territorial limits of States by the law of nations, a State can define its boundaries on the sea and the boundaries of its counties; and by this test Massachusetts can include Buzzard's Bay within the limits of its counties

There are no existing treaties or acts of Congress which relate to the menhaden fisheries within such a bay as Buzzard's Bay.

The question is not considered whether or not Congress would have the right to control menhaden fisheries in question.

By an act of the Legislature of the Commonwealth of Massachusetts, approved May 6, 1886 (Laws of 1886, c. 192), entitled "An act for the protection of the fisheries in Buzzard's Bay," it was enacted as follows: —

Section 1. No person shall draw, set, stretch or use any drag net, set net or gill net, purse or sweep seine of any kind for taking fish anywhere in the waters of Buzzard's Bay within the jurisdiction of this

Commonwealth, nor in any harbor, cove or bight of said bay except as hereinafter provided.

SECT. 2. Any net or seine used in violation of any provision of this act, together with any boat, craft or fishing apparatus employed in such illegal use, and all fish found therewith, shall be forfeited; and it shall be lawful for any inhabitant or inhabitants of any town bordering on said bay to seize and detain, not exceeding forty-eight hours, any net or seine found in use contrary to the provisions of this act, and any boat, craft, fishing apparatus and fish found therewith, to the end that the same may be seized and libelled if need be by due process of law.

SECT. 3. All nets and seines in actual use set or stretched in the waters aforesaid in violation of this act are declared to be common nuisances.

SECT. 4. Nothing contained in this act shall be construed to interfere with the corporate rights of any fishing company located on said bay nor in any way to affect the fish weirs mentioned in section seventy of chapter ninety-one of the Public Statutes, nor the use of nets or seines in lawful fisheries for shad or alewives in influent streams of said bay, nor to the use of set nets or gill nets in the waters of the town of Fairhaven within a line drawn from Commorant rock south-westerly to the buoy on West Island Rips and from thence westerly in a straight course through the buoy on West Island Ledge to the town line of Fairhaven.

SECT 5. Whoever violates any provision of this act or aids or assists in violating the same shall pay a fine not exceeding two hundred dollars for each offence.

SECT 6. District courts and trial justices shall have concurrent jurisdiction with the Superior Court of all offences and proceedings under the provisions of this act.

SECT 7. All fines received under this act shall be paid one-half to the complainant and the other half to the Commonwealth. All moneys from any forfeitures incurred under this act shall inure and be paid one-fourth to the informer and one-fourth to the person filing the libel and the other half to the Commonwealth.

Under that statute, a complaint in writing under oath was made on behalf of the Commonwealth, before a trial justice in and for the county of Barnstable, in Massachusetts, that Arthur Manchester, at Falmouth, in the county of Barnstable, on the nineteenth day of July, in the year 1889, did then and there draw, set, stretch and use a purse seine for the taking of fish in the waters of Buzzard's Bay, within the jurisdiction of the Commonwealth. Under a warrant issued on this complaint, Manchester was, on the 1st of August, 1889, brought before the trial justice and pleaded not guilty. The justice found him guilty, on a hearing of the case, and imposed upon him a fine of $100, to the use of the Commonwealth, and costs, and ordered that, if the fine and costs should not be paid, he should be committed to jail, there to be kept until

he should pay them, or be otherwise discharged by due course of law.

The defendant appealed to the Superior Court of Barnstable County. In that court, the case was, according to the statute, tried by a jury, which found the defendant guilty. That court reported the case for the determination of the Supreme Judicial Court of the Commonwealth, which heard it, and on the 18th of September, 1890, made an order that judgment should be rendered on the verdict. On the rescript being received by the Superior Court, it affirmed the judgment of the trial justice, and directed the defendant to pay a fine of $100 and the costs of prosecution, and stand committed until he should comply with the order.

The report of the Superior Court, signed by a justice thereof, was as follows: "This was a complaint under section 1 of chapter 192 of the Statutes of 1886. A copy of the complaint is annexed and made a part of this report. The evidence of the Commonwealth tended to show that the defendant and others, who were citizens of Rhode Island and were officers and crew of the fishing steamer called the 'A. T. Serrell,' on the day named in the complaint were engaged in drawing, setting, stretching and using a purse seine for the taking of fish in the waters of Buzzard's Bay. The place where the defendant was so engaged with said seine was about, and not exceeding, one mile and a quarter from a point on the shore midway from the north line of said town to the south line thereof. The point where the defendant was so using said seine was within that part of Buzzard's Bay which the Harbor and Land Commissioners, acting under the provisions of section 2 of chapter 196 of the Acts of the year 1881, had, so far as they were capable of doing so, assigned to and made a part of the town of Falmouth. A copy of the map showing boundary lines between the adjacent cities and towns bordering on Buzzard's Bay, as so located by said commissioners, was used at the trial and may be referred to. The point where the defendant was using said seine is marked 'A' on said plan. The Commonwealth's evidence tended to show that the defendant and his associates, on said day and at the point described, caught with said seine a large quantity of the fish called menhaden. In this act of fishing no fixed apparatus was used and the bottom of the sea was not encroached upon or disturbed. The Commonwealth further offered evidence tending to show that the distance between the headlands at the mouth of Buzzard's Bay, viz., at Westport, in the county of Bristol, on the one side, and the island of Cuttyhunk, in the county of Dukes, on the other side, was more than one and less than two marine leagues. The island of Cuttyhunk is the most southerly of the

chain of islands lying to the eastward of Buzzard's Bay, and known as the Elizabeth Islands. The distance across said bay at the point where the acts of the defendant were done is more than two marine leagues, and the opposite points are in different counties. The defendant did not dispute any of the testimony offered by the Commonwealth, but introduced evidence tending to show that he was engaged in fishing for menhaden only, and that he caught no other fish excepting menhaden; that menhaden is not a food fish, and is only valuable for the purpose of bait and of manufacture into fish oil; and that the taking of said menhaden by seining does not tend in any way to decrease the quantity and variety of food fishes. The defendant offered evidence further tending to show that he was in the employ of the firm of Charles Cook and others, who were engaged in the State of Rhode Island in the business of seining menhaden to be sold for bait and to be manufactured into fish oil and fish manure. The defendant further offered testimony tending to show that it was impossible to discern objects across from one headland to the other at the mouth of Buzzard's Bay. The defendant's evidence showed that the said steamer was of Newport, Rhode Island, duly enrolled and licensed at that port, under the laws of the United States, for carrying on the menhaden fishery, and it was conceded by the Commonwealth that the defendant was employed upon the vessel described by said enrolment and license, and, at the time of the commission of the acts complained of, he and his associates were so in the employ of the vessel described in said license. The district attorney stated that he should not controvert any of the foregoing evidence, but claimed that it was incompetent in defence of this complaint; but for the purposes of the trial I admitted the testimony. The foregoing is all the evidence offered at the trial of this complaint. It was conceded that the defendant could not be convicted if chapter 212 of the Acts of 1865 was not repealed by the statute of 1886, chapter 192. At the conclusion of the evidence the defendant asked me to rule as follows: 1. As the government does not claim that the act complained of is in violation of any statute except of chapter 192 of the Acts of 1886, the defendant, notwithstanding that statute, is authorized to take menhaden by the use of the purse seine, in the waters of Buzzard's Bay, in the place where this act was committed. 2. Chapter 192 of the Acts of the year 1886 did not repeal chapter 212 of the Acts of the year 1865. 3. The defendant may lawfully take menhaden, by the use of the purse seine, in Buzzard's Bay, in the place where the acts complained of in this case were done. And also: 1. The act complained of was on the high seas, and without the jurisdiction of Massachusetts. 2. The

act complained of having been done under a United States license for carrying on this fishery, the defendant cannot be held as a criminal for violating a statute of this Commonwealth. 3. The defendant cannot be held unless the act complained of was done and committed within the body of a county, as understood at common law. 4. The statute of this Commonwealth, prohibiting under a penalty the use of nets and seines and the taking of fish within three miles of the shore, is invalid, especially as against a license to fish granted under the laws of the United States. The defendant further asked me to rule that on all the evidence the defendant could not be convicted. I declined to rule as requested by the defendant, and submitted the case to the jury, with the instruction that the Statute of 1865 was repealed by the Statute of 1886, and with the instruction that, if they found that the defendant was engaged in using a purse seine for the taking of fish of any kind in that part of Buzzard's Bay which was within the jurisdiction of the Commonwealth of Massachusetts, they would be authorized to convict the defendant; and that the place where the acts of the defendant were committed, being within a marine league from the shore at low-water mark, was within the jurisdiction of the Commonwealth. The jury returned a verdict of guilty; and now, after verdict and at the request of the defendant, and by the consent of the parties, I report the case, with my rulings at the trial of the same, for the determination of the Supreme Judicial Court."

The Supreme Judicial Court held the statute in question to be constitutional and valid, and delivered an opinion, by Chief Justice Field, which is reported in 152 Mass. 230.

The defendant sued out a writ of error directed to the Superior Court, to review its judgment, and assigned as errors, that the court ruled and adjudged: "1. That the place where the alleged offence was committed was not a part of the high seas, and was not, under article 3, section 2, of the Constitution, which provides that the judicial power of the United States shall extend to all cases of admiralty and maritime jurisdiction, within the exclusive jurisdiction of the federal government. 2. That said place, notwithstanding said provision of the Constitution, was within the jurisdiction of Massachusetts. 3. That the plaintiff in error was not authorized to do the act complained of by a license under Title 50 of the Revised Statutes, and was not protected by such license. 4. That chapter 192 of the Acts of the General Court of Massachusetts for the year 1886, as construed by the court, was valid, notwithstanding the provisions of the Constitution and laws above cited, or any provisions of the Constitution and laws of the United States."

Mr. Joseph H. Choate and *Mr. James F. Jackson* for plaintiff in error.

I. At the time of the treaty of Paris, in 1783, the territorial domain of England extended upon her coast to low-water mark, including all bays, harbors and inlets within the "*fauces terræ*, where a man can reasonably discern from shore to shore."

Within these limits was "the body of the county." Within them the title to tide-waters and the soil beneath was in the crown.

Without these limits were the "high seas," the common property of all nations. Over them England, as one of the common sovereigns of the ocean, had certain rights of jurisdiction and dominion derived from and sanctioned by the agreement of nations, express or implied.

Such jurisdiction and dominion she had for all purposes of self-defence and for the regulation of coast fisheries.

The exercise of such rights over adjacent waters would not necessarily be limited to a three-mile belt, but would undoubtedly be sanctioned as far as reasonably necessary to secure the practical benefits of their possession.

If self-defence or regulation of fisheries should reasonably require assumption of control to a greater distance than three miles, it would undoubtedly be acquiesced in by other nations.

The *marine-league* distance has acquired prominence merely because of its adoption as a boundary in certain agreements and treaties and from its frequent mention in text books, but has never been established in law as a fixed boundary.

These rights belonged to England as a member of the family of nations, and did not constitute her the possessor of a proprietary title in any part of the high seas nor add any portion of these waters to her realm. In their nature they were rights of dominion and sovereignty rather than of property.

This question is very fully considered and the authorities examined in a recent case. *Regina* v. *Keyn*, 2 Ex. D. 63.

The law of England was introduced and established in the colonies. The characteristic features of the property title of the crown in the sea-shore, with its limit at low-water mark, were recognized as distinguished from the peculiar rights of sovereignty called "regalia." *Commonwealth* v. *Alger*, 7 Cush. 53, 83; *Commonwealth* v. *Roxbury*, 9 Gray, 451; *Martin* v. *Waddell*, 16 Pet. 367.

The distinction between *high seas* and *tide-waters within the body of the county* has been generally recognized. *Commonwealth* v.

Peters, 12 Met. 387; *United States* v. *Grush*, 5 Mason, 170; 1 Kent Comm. 396.

Such, then, was the territorial domain and such the extra-territorial right of jurisdiction which Massachusetts possessed and could have exercised as an independent State when she adopted the federal Constitution.

As an independent nation she could have undoubtedly enacted a statute like the one under discussion, which her own courts would have enforced and which other nations would have recognized.

II. To what extent did she under the Constitution surrender this right of control over the fisheries of the ocean?

(1) Whatever dominion or rights exist in the high seas are determined by international law and rest solely upon the common consent of nations, which may be express, but is more generally implied.

Whatever of such rights Massachusetts possessed previous to the formation of the federal government she possessed wholly by virtue of an agreement between herself as a nation and other nations.

When she became a State in the Union she not only on general principles merged her nationality in that of the United States, but by express concession she agreed to these clauses of the Constitution. Art. I., section 10. "No State shall enter into any treaty, alliance or confederation." "No State shall without the consent of Congress enter into any agreement or compact with another State or with a foreign power."

Thus Massachusetts was cut off from entering into such agreements with foreign nations as make up the body of international law. Not only could she enter into no new agreement, but the continuance of existing agreements and contractual relations was terminated. When Massachusetts adopted the Constitution she gave up her international dealings, and ceased to be a party to the usages and agreements by which they are governed.

The control over the fisheries of the ocean, resting as it did upon such agreement and usage, was surrendered with the power to contract with other sovereign States. This was not a surrender of territory that belonged to her, but of dominion over the common territory of the nations. Her title to her own territory, as known and defined by law, she still retained. Story on Const. § 1673.

"The Pacific Ocean belongs to no one nation, but is the common property of all." *Lord* v. *Steamship Co.*, 102 U. S. 541. Is every seaboard State of the Union one of these owners and the

United States without such ownership? Do these States have the right to take possession and control of the high seas as far as they shall see fit, and assert each its own ideas and claims of right under international law and usage? Are the inland States without interest or authority in this common ocean and what it contains?

It is certainly a subject of more or less disagreement between nations how far rights of dominion upon the sea extend, giving rise to various assertions and claims. No absolute limit has yet been fixed upon. Nothing more has thus far been settled than that these rights extend to at least three miles from shore.

It is difficult to believe that this question is one to be settled between foreign nations and each of the seaboard States dealing with one another as common sovereigns of the sea. We contend, on the contrary, that rights over the waters adjacent to our coast and a part of the ocean, "the property of no one nation," are rights of dominion recognized and established between nations by virtue of their national character and to determine international relations; that as such the merging of the national character by the several States into the United States by the adoption of the Constitution transferred by necessary implication and express provision the exercise of these rights.

(2) Another clause of the Constitution is to be considered: "The judicial power shall extend to all cases of admiralty and maritime jurisdiction." Constitution, Art. III., sect. 2.

This grant to the federal head of the power to establish the only courts which had any jurisdiction whatever upon the high seas is only consistent with the view that the rights to be protected were national rights and should be enforced in national courts. *Commonwealth* v. *Peters*, 12 Met. 387; 1 Kent Com. 367, 397; *United States* v. *Grush*, 5 Mason, 290; Story Const. § 1673.

The distinction between the jurisdiction left in the States over localities within their territory, within the body of a county, and the jurisdiction transferred to the United States is clearly stated in *Commonwealth* v. *Peters*, where the chief justice says: "Supposing the case stood upon the Constitution of the United States alone, without any legislation by Congress, the natural conclusion would be that the purpose of the Constitution was to transfer to the government of the United States all the admiralty and maritime jurisdiction over cases, civil and criminal, which had been exercised in England by the courts of admiralty and the special commissioners for the trial of maritime causes, and that all other judicial power would remain to the State. This would leave the courts of the State all the jurisdiction of all cases occurring upon

rivers and other places within the ebb and flow of the tide lying within the body of any county."

This clause is not to be construed as a "cession of the waters," but simply of jurisdiction. The State did not own the ocean and had no waters to cede.

Nor is it contended that the jurisdiction of a State is not "coextensive with its territory." Our argument is that the territory of Massachusetts was defined under the law of England, and that when she adopted the Constitution her domain was limited, as far as proprietary title is concerned, by the body of the county, in accordance with the established principles of that law.

It was *without this territory* that the offence with which Manchester is charged took place, in a locality where legislative control did not rest upon title in the soil and waters, but upon rights of sovereignty inseparably connected with national character, and which had always been exclusively intrusted to enforcement in admiralty courts. The transfer of the power to establish these courts, with their recognized exclusive jurisdiction over the high seas, was equivalent to the transfer of the right of control over those seas.

This view is in accord with the decisions of the courts. In all cases when the State courts have been held to have jurisdiction, the locality has been admitted to be within the territorial boundaries of the State.

Within such boundaries the common law courts of the State continue to have jurisdiction, the State continues to own her fisheries. *United States* v. *Bevans*, 3 Wheat. 336, 387; *Smith* v. *Maryland*, 18 How. 71. In the latter case Mr. Justice Curtis says "this power results from the ownership of the soil."

It is true that *within the tide-waters of the State* "there has been no grant of power over the fisheries" to the United States. *McCready* v. *Virginia*, 94 U. S. 391. That the State had no jurisdiction upon the ocean within three miles of shore was necessarily the decision of the court in the application of the Crimes Act of 1790 to an offence off Newburyport. *United States* v. *Smith*, 1 Mason, 147; *United States* v. *Kessler*, Baldwin, 15, 35. Could Massachusetts, under chapter 289 of the Acts of 1859, oust the United States of its jurisdiction?

The transfer of this exclusive jurisdiction over the high seas to the national courts was consistent with the true purposes of the Union. Such jurisdiction belongs to the federal authorities for the best of reasons. Story Const. § 1673. The admiralty jurisdiction of the United States, as compared with that of England, has been *extended* but never *abridged*.

(3) "The Congress shall have power to regulate commerce with foreign nations and among the several States." Fishing upon the high seas is in its nature an integral part of national commerce, and its control and regulation are necessarily vested in Congress and not in the individual States. To secure the benefit of such national control and regulation of the fisheries was one of the express purposes of the Union.

The fisheries of the ocean were viewed as of national importance, as one of the principal sources of maritime power and of interstate and foreign commerce, and it was believed that one of the great benefits to be obtained from the federal union was to be *their control by a uniform law and protection by national authority.* The taking of fish in the ocean is an act necessarily bringing those engaged in it into contact with other nations. What is true of the simple act of navigation upon an ocean is still more true of fishing there. See *Lord* v. *Steamship Co.*, 102 U. S. 541. Can there be any doubt, following the reasoning in that case, that the control of the vessels engaged in taking menhaden upon the high seas is vested exclusively in Congress as a part of our external commerce?

The principles to be applied under this clause of the Constitution have been stated in many cases and very fully in the recent case of *Robbins* v. *Shelby Taxing District*, 120 U. S. 489. From the principles there laid down it would seem to be free from doubt that the *ocean fisheries* or *coast fisheries*, as they are termed, are national in character and in importance.

They were so considered previous to and at the formation of the Constitution; they have been ever since a most important feature of national policy and occupied prominent position in our treaties; they "enter into the national policy, affect national rights, and may compromit the national sovereignty;" in the taking of the fish and in the navigation of the ocean they are inseparably connected with the interests of the country as a whole and its people as citizens of the United States; they constantly bring those engaged in this branch of commerce in contact with the rights and privileges of other nations.

That the welfare of these national industries requires one uniform system of regulation seems apparent.

Whether it be mackerel, cod or menhaden fisheries, what more embarrassing and destructive of their proper conduct than to have twenty-two different systems of laws and regulations controlling the same industry along our shores?

Nothing is more certain than that the just regulation of different fisheries demands careful investigation into the facts relat-

ing to them, freedom from prejudiced and vexatious local legislation, and a protection that can only be secured from congressional control.

This question does not affect menhaden fisheries alone, but the mackerel, cod and other fisheries as well. The fickleness and injustice of State legislation must always subject to the varying whims of local ignorance or prejudice an important industry, involving the outlay of a large amount of capital, upon which great commercial interests depend, — an industry fruitful, too, of national blessing, in the building of ships and in the education of mariners.

Moreover, even if the subject matter of ocean fisheries were deemed to be of such a nature that the States might make and enforce regulation thereof until the contrary intent of Congress appeared, the purpose of Congress to take this regulation into its own control has been plainly manifested.

Under its joint resolution of Feb. 9, 1871, in establishing the Fish Commission, and under Title LI. of the Revised Statutes, entitled "Regulation of the Fisheries," it has assumed the regulation of the coast fisheries in all such respects as are covered by the Massachusetts statute under which Manchester was convicted. It has made it the duty of the fish commissioner to investigate the facts, and report whether any, and, if so, what, protective, prohibitory or precautionary measures shall be adopted in the premises.

This must have been done with a view of passing all such laws as should be necessary for the protection of the food fishes of the coast.

Again, Congress took action in the enactment of chapter 288 of the Statutes of 1887 relating to the mackerel fisheries.

It took action under the statutes relating to bounties, privileges and agreements in 1792, in 1793 and in 1813, and in the granting of the license under which the plaintiff in error was fishing.

Whatever construction has been put upon such a license in cases where the rights of the licensee have been affected by State legislation, it has never been denied that such a license is a grant of authority, as held in *Gibbons* v. *Ogden*, 9 Wheat. 1.

When Congress enacted the law under which the plaintiff in error took out his license its power to regulate this fishery was exercised, and no prohibitory statute of a State could defeat his right to fish in the *high seas* under it.

In the case of *Smith* v. *Maryland*, where such a license was considered, the locality was admittedly within the territory of the State, and the State law was held valid under its right to protect its own territory and property.

In each of the cases relating to the regulation of shell-fish the decision rests upon a state of facts in which it is conceded that the fish were within the territory and soil of the State.

We do not question the right of the State to regulate its own fisheries within its own soil or tide-waters.

The United States has in her treaties with foreign powers several times disposed of these fisheries as though they belonged to her and not as though they were the property of the individual States.

Commerce with the nations is constantly concerned with them, either through rights and privileges determined by treaties or those determined by the general consent of the common sovereigns of the ocean.

The menhaden fishery, with all its ramifications, inseparably connected as it is with the food fisheries and markets of the world, is practically destroyed by such legislation as that of Massachusetts, based upon an unjust discrimination and lack of such investigation as is being now carried on by authority of Congress.

It is the exclusion by the State of an important business connected with the commerce of the nations, authorized by national license, not from its own domain, where it might be claimed to be a matter of internal concern, but from the high seas, where it is necessarily a matter of external concern and carried on in contact with and together with all mankind.

Mr. Henry C. Bliss, Assistant Attorney-General of Massachusetts, with whom on the brief was *Mr. Andrew J. Waterman*, Attorney-General of that Commonwealth, for defendant in error.

Mr. Justice Blatchford, after stating the case, delivered the opinion of the court.

The principal contentions in this court on the part of the defendant are that, although Massachusetts, if an independent nation, could have enacted a statute like the one in question, which her own courts would have enforced and which other nations would have recognized, yet, when she became one of the United States, she surrendered to the general government her right of control over the fisheries of the ocean, and transferred to it her rights over the waters adjacent to the coast and a part of the ocean; that, as by the Constitution, article 3, section 2, the judicial power of the United States is made to extend to all cases of admiralty and maritime jurisdiction, it is consistent only with that view that the rights in respect of fisheries should be regarded as national rights, and be enforced only in national courts; that the

proprietary right of Massachusetts is confined to the body of the county; that the offence committed by the defendant was committed outside of that territory, in a locality where legislative control did not rest upon title in the soil and waters, but upon rights of sovereignty inseparably connected with national character, and which were intrusted exclusively to enforcement in admiralty courts; that the Commonwealth has no jurisdiction upon the ocean within three miles of the shore; that it could not, by the statute in question, oust the United States of jurisdiction; that fishing upon the high seas is in its nature an integral part of national commerce, and its control and regulation are necessarily vested in Congress and not in the individual States; that Congress has manifested its purpose to take the regulation of coast fisheries, in the particulars covered by the Massachusetts statute in question, by the joint resolution in Congress of Feb. 9, 1871 (16 Stat. 593), establishing the Fish Commission, and by title 51 of the Revised Statutes, entitled, "Regulation of Fisheries," and by the act of Feb. 28, 1887, c. 288 (24 Stat. 434), relating to the mackerel fisheries, and by acts relating to bounties, privileges and agreements, and by granting the license under which the defendant's steamer was fishing; and that, in view of the act of Congress authorizing such license, no statute of a State could defeat the right of the defendant to fish in the high seas under it.

By the Public Statutes of Massachusetts, part 1, title 1, c. 1, sections 1 and 2, it is enacted as follows: "Section 1. The territorial limits of this Commonwealth extend one marine league from its sea-shore at low-water mark. When an inlet or arm of the sea does not exceed two marine leagues in width between its headlands, a straight line from one headland to the other is equivalent to the shore line. Section 2. The sovereignty and jurisdiction of the Commonwealth extend to all places within the boundaries thereof; subject to the rights of concurrent jurisdiction granted over places ceded to the United States." The same Public Statutes, part 1, title 1, c. 22, section 1, contain the following provision: "The boundaries of counties bordering on the sea shall extend to the line of the Commonwealth, as defined in section one of chapter one." Section 11 of the same chapter is as follows: "The jurisdiction of counties separated by waters within the jurisdiction of the Commonwealth shall be concurrent upon and over such waters." By section 2 of chapter 196 of the Acts of Massachusetts of 1881, it is provided as follows: "Section 2. The harbor and land commissioners shall locate and define the courses of the boundary lines between adjacent cities and towns bordering upon the sea and upon arms of the sea from high-water

mark outward to the line of the Commonwealth, as defined in said section one [section one of chapter one of the General Statutes], so that the same shall conform as nearly as may be to the course of the boundary lines between said adjacent cities and towns on the land; and they shall file a report of their doings with suitable plans and exhibits, showing the boundary lines of any town by them located and defined, in the registry of deeds in which deeds of real estate situated in such town are required to be recorded, and also in the office of the secretary of the Commonwealth."

The report of the Superior Court states that the point where the defendant was using the seine was within that part of Buzzard's Bay which the harbor and land commissioners, acting under the provisions of the Act of 1881, had, so far as they were capable of doing so, assigned to and made part of the town of Falmouth; that the distance between the headlands at the mouth of Buzzard's Bay "was more than one and less than two marine leagues;" that "the distance across said bay, at the point where the acts of the defendant were done, is more than two marine leagues, and the opposite points are in different counties;" and that "the place where the defendant was so engaged with said seine was about, and not exceeding, one mile and a quarter from a point on the shore midway from the north line of" the town of Falmouth "to the south line" of that town.

Buzzard's Bay lies wholly within the territory of Massachusetts, having Barnstable County on the one side of it, and the counties of Bristol and Plymouth on the other. The defendant offered evidence that he was fishing for menhaden only, with a purse seine; that "the bottom of the sea was not encroached upon or disturbed," "that it was impossible to discern objects across from one headland to the other at the mouth of Buzzard's Bay;" and that the steamer was duly enrolled and licensed at the port of Newport, Rhode Island, under the laws of the United States, for carrying on the menhaden fishery.

By section 1 of chapter 196 of the laws of Massachusetts of 1881, it was enacted as follows: "Section 1. The boundaries of cities and towns bordering upon the sea shall extend to the line of the Commonwealth as the same is defined in section one of chapter one of the General Statutes." Section 1 of chapter 1 of the General Statutes contains the provisions before recited as now contained in the Public Statutes, chapter 1, section 1, and chapter 22, sections 1 and 11. Buzzard's Bay was undoubtedly within the territory described in the charter of the Colony of New Plymouth and the Province charter. By the definitive treaty of peace of Sept. 3, 1783, between the United States and Great

Britain (8 Stat. 81), His Britannic Majesty acknowledged the United States, of which Massachusetts Bay was one, to be free, sovereign and independent States, and declared that he treated with them as such, and, for himself, his heirs and successors, relinquished all claims to the government, propriety and territorial rights of the same and every part thereof. Therefore, if Massachusetts had continued to be an independent nation, her boundaries on the sea, as defined by her statutes, would unquestionably be acknowledged by all foreign nations, and her right to control the fisheries within those boundaries would be conceded. The limits of the right of a nation to control the fisheries on its sea coasts, and in the bays and arms of the sea within its territory, have never been placed at less than a marine league from the coast on the open sea; and bays wholly within the territory of a nation, the headlands of which are not more than two marine leagues, or six geographical miles, apart, have always been regarded as a part of the territory of the nation in which they lie. Proceedings of the Halifax Commission of 1877, under the Treaty of Washington of May 8, 1871, Executive Document No. 89, 45th Congress, 2d session, Ho. Reps., pp. 120, 121, 166.

On this branch of the subject the case of *The Queen* v. *Keyn*, 2 Ex. D. 63, is cited for the plaintiff in error; but there the question was not as to the extent of the dominion of Great Britain over the open sea adjacent to the coast, but only as to the extent of the existing jurisdiction of the Court of Admiralty in England over offences committed on the open sea; and the decision had nothing to do with the right of control over fisheries in the open sea or in bays or arms of the sea. In all the cases cited in the opinions delivered in *The Queen* v. *Keyn*, wherever the question of the right of fishery is referred to, it is conceded that the control of fisheries, to the extent of at least a marine league from the shore, belongs to the nation on whose coast the fisheries are prosecuted.

In *Direct U. S. Cable Co.* v. *Anglo-American Tel. Co.*, 2 App. Cas. 394, it became necessary for the Privy Council to determine whether a point in Conception Bay, Newfoundland, more than three miles from the shore, was a part of the territory of Newfoundland, and within the jurisdiction of its legislature. The average width of the bay was about fifteen miles, and the distance between its headlands was rather more than twenty miles; but it was held that Conception Bay was a part of the territory of Newfoundland, because the British government had exercised exclusive dominion over it, with the acquiescence of other nations, and it had been declared by act of Parliament "to be part of the British territory, and part of the country made subject to the legislature of Newfoundland."

We think it must be regarded as established, that, as between nations, the minimum limit of the territorial jurisdiction of a nation over tide-waters is a marine league from its coast; that bays wholly within its territory not exceeding two marine leagues in width at the mouth are within this limit; and that included in this territorial jurisdiction is the right of control over fisheries, whether the fish be migratory, free-swimming fish, or free-moving fish, or fish attached to or embedded in the soil. The open sea within this limit is, of course, subject to the common right of navigation; and all governments, for the purpose of self-protection in time of war or for the prevention of frauds on its revenue, exercise an authority beyond this limit. Gould on Waters, part 1, c. 1, §§ 1–17, and notes; *Neill* v. *Duke of Devonshire*, 8 App. Cas. 135; *Gammell* v. *Commissioners*, 3 Macq. 419; *Mowat* v. *McFee*, 5 Sup. Ct. of Canada, 66; *The Queen* v. *Cubitt*, 22 Q. B. D. 622; St. 46 47 Vict. c. 22.

It is further insisted by the plaintiff in error, that the control of the fisheries of Buzzard's Bay is, by the Constitution of the United States, exclusively with the United States, and that the statute of Massachusetts is repugnant to that Constitution and to the laws of the United States.

In *Dunham* v. *Lamphere*, 3 Gray, 268, it was held (Chief Justice Shaw delivering the opinion of the court) that, in the distribution of powers between the general and State governments, the right to the fisheries and the power to regulate the fisheries on the coasts and in the tide-waters of the State, were left, by the Constitution of the United States, with the States, subject only to such powers as Congress may justly exercise in the regulation of commerce, foreign and domestic. In the present case the court below was asked to reconsider that decision, mainly on the ground that the admiralty and maritime jurisdiction of the courts of the United States were not considered in the opinion, and that the recent decisions of the Supreme Court of the United States, on the power of Congress to regulate commerce, required that the decision be reconsidered; but the court stated that no recent decisions of this court had been cited which related to the regulation of fisheries within the territorial tide-waters of a State, and that the decisions of this court which related to that subject did not appear to be in conflict with the decision in *Dunham* v. *Lamphere*, and that it never had been decided anywhere that the regulation of the fisheries within the territorial limits of a State was a regulation of commerce.

It is further contended that, by the Constitution of the United States, the judicial power of the United States extends to all cases of admiralty and maritime jurisdiction, and is exclusive;

that this case is within such jurisdiction; and that, therefore, the courts of Massachusetts have no jurisdiction over it. In *McCready* v. *Virginia*, 94 U. S. 391, the question involved was, whether the State of Virginia could prohibit the citizens of other States from planting oysters in Ware River, a stream in Virginia where the tide ebbed and flowed, when her own citizens had that privilege. In that case it was said that the principle had long been settled in this court, that each State owns the beds of all tide-waters within its jurisdiction, unless they have been granted away; and that, in like manner, the States own the tide-waters themselves and the fish in them, so far as they are capable of ownership while running; and this court added, in its opinion: "The title thus held is subject to the paramount right of navigation, the regulation of which, in respect to foreign and interstate commerce, has been granted to the United States. There has been, however, no such grant of power over the fisheries. These remain under the exclusive control of the State, which has consequently the right, in its discretion, to appropriate its tide-waters and their beds to be used by its people as a common for taking and cultivating fish, so far as it may be done without obstructing navigation. Such an appropriation is in effect nothing more than a regulation of the use by the people of their common property. The right which the people of the State thus acquire comes not from their citizenship alone, but from their citizenship and property combined. It is, in fact, a property right, and not a mere privilege or immunity of citizenship."

In *Smith* v. *Maryland*, 18 How. 71, 74, a vessel licensed to be employed in the coasting trade and fisheries was seized by the sheriff of Anne Arundel County in Maryland, while engaged in dredging for oysters in Chesapeake Bay, in violation of a statute of Maryland enacted for the purpose of preventing the destruction of oysters in the waters of that State; and the questions presented were whether that statute was repugnant to the provisions of the Constitution of the United States which grant to Congress the power to regulate commerce, or to those which declare that the judicial power of the United States shall extend to all cases of admiralty and maritime jurisdiction, or to those which declare that the citizens of each State shall be entitled to all privileges and immunities of citizens in the several States. Mr. Justice Curtis, in delivering the opinion of this court, said: "Whatever soil below low-water mark is the subject of exclusive property and ownership, belongs to the State on whose maritime border and within whose territory it lies, subject to any lawful grants of that soil by the State, or the sovereign power which governed its territory,

before the declaration of independence. *Pollard* v. *Hagan*, 3 How. 212; *Martin* v. *Waddell*, 16 Pet. 367; *Den* v. *The Jersey Co.*, 15 How. 426. But this soil is held by the State, not only subject to, but in some sense in trust for, the enjoyment of certain public rights, among which is the common liberty of taking fish, as well shell-fish as floating fish." He also said that the statute of Maryland does "not touch the subject of the common liberty of taking oysters, save for the purpose of guarding it from injury, to whomsoever it may belong, and by whomsoever it may be enjoyed. Whether this liberty belongs exclusively to the citizens of the State of Maryland, or may lawfully be enjoyed in common by all citizens of the United States; whether this public use may be restricted by the State to its own citizens or a part of them, or by force of the Constitution of the United States must remain common to all citizens of the United States; whether the national government, by a treaty or act of Congress, can grant to foreigners the right to participate therein; or what, in general, are the limits of the trust upon which the State holds this soil, or its power to define and control that trust, are matters wholly without the scope of this case, and upon which we give no opinion." Upon the question of the admiralty jurisdiction, he said: "But we consider it to have been settled by this court, in *United States* v. *Bevans*, 3 Wheat. 336, that this clause in the Constitution did not affect the jurisdiction, nor the legislative power of the States, over so much of their territory as lies below high-water mark, save that they parted with the power so to legislate as to conflict with the admiralty jurisdiction or laws of the United States. As this law conflicts neither with the admiralty jurisdiction of any court of the United States conferred by Congress, nor with any law of Congress whatever, we are of opinion it is not repugnant to this clause of the Constitution." The court also held that the act was not repugnant to the clause of the Constitution which conferred upon Congress the power to regulate commerce, and that the enrolment and license of the vessel gave to the plaintiff in error no right to violate the statute of Maryland. It is said in the opinion that "no question was made in the court below whether the place in question be within the territory of the State. The law is, in terms, limited to the waters of the State;" and the question, therefore, did not arise "whether a voyage of a vessel, licensed and enrolled for the coasting trade, had been interrupted by force of a law of a State while on the high seas, and out of the territorial jurisdiction of such State." The dimensions of Chesapeake Bay do not appear in the report of the case, but it has been said that this bay is "twelve miles across at the ocean." 1 Bish.

Crim. Law, § 105. It is a bay considerably larger than Buzzard's Bay, and is not wholly within the State of Maryland, although at the point where Anne Arundel County bounds upon it it is wholly in that State. *Haney* v. *Compton*, 7 Vroom (36 N. J. Law), 507; *Corfield* v. *Coryell*, 4 Wash. C. C. 371; *Weston* v. *Sampson*, 8 Cush. 347; *S. C.* 54 Am. Dec. 764; *Mahler* v. *Norwich & New York Transportation Co.*, 35 N. Y. 352; *United States* v. *Smiley*, 6 Sawyer, 640.

In the case of *Stockton* v. *Baltimore & N. Y. R. Co.*, 32 Fed. Rep. 9, in the Circuit Court for the District of New Jersey, Mr. Justice Bradley shows clearly that there is no necessary conflict between the right of the State to regulate the fisheries in a given locality and the right of the United States to regulate commerce and navigation in the same locality. He says that, prior to the Revolution, the shore and lands under water of the navigable streams and waters of the Province of New Jersey belonged to the King of Great Britain, and, after the conquest, those lands were held by the State, as they were by the King, in trust for the public uses of navigation and fishery. He adds: "It is true that to utilize the fisheries, especially those of shell-fish, it was necessary to parcel them out to particular operators. . . . The power to regulate commerce is the basis of the power to regulate navigation and navigable waters and streams. . . . So wide and extensive is the operation of this power that no State can place any obstruction in or upon any navigable waters against the will of Congress." The doctrine has always been firmly maintained by this court, that whenever a conflict arises between a State and the United States, as to the regulation of commerce or navigation, the authority of the latter is supreme and controlling.

Under the grant by the Constitution of judicial power to the United States in all cases of admiralty and maritime jurisdiction, and under the rightful legislation of Congress, personal suits on maritime contracts or for maritime torts can be maintained in the State courts; and the courts of the United States, merely by virtue of this grant of judicial power, and in the absence of legislation by Congress, have no criminal jurisdiction whatever. The criminal jurisdiction of the courts of the United States is wholly derived from the statutes of the United States. *Butler* v. *Boston & Savannah Steamship Co.*, 130 U. S. 527; *The Belfast*, 7 Wall. 624; *The Eagle*, 8 Wall. 15; *Leon* v. *Galceran*, 11 Wall. 185; *Steamboat Co.* v. *Chase*, 16 Wall. 522; *S. C.* 9 R. I. 419; *Schoonmaker* v. *Gilmore*, 102 U. S. 118; *Insurance Co.* v. *Dunham*, 11 Wall. 1; *Jones* v. *United States*, 137 U. S. 202, 211. In each of the cases of *United States* v. *Bevans*, 3 Wheat.

336, and of *Commonwealth* v. *Peters*, 12 Met. 387, the place where the offence was committed was in Boston harbor; and it was held to be within the jurisdiction of Massachusetts, according to the meaning of the statutes of the United States which punished certain offences committed upon the high seas or in any river, haven, basin or bay "out of the jurisdiction of any particular State." The test applied in *Commonwealth* v. *Peters*, which was decided in the year 1847, was that the place was within a bay "not so wide but that persons and objects on the one side can be discerned by the naked eye by persons on the opposite side," and was therefore within the body of a county. In *United States* v. *Bevans*, Marshall, C. J., said: "The jurisdiction of a State is coextensive with its territory; coextensive with its legislative power. The place described is unquestionably within the original territory of Massachusetts. It is then within the jurisdiction of Massachusetts, unless that jurisdiction has been ceded to the United States." If the place where the offence charged in this case was committed is within the general jurisdiction of Massachusetts, then, according to the principles declared in *Smith* v. *Maryland*, the statute in question is not repugnant to the Constitution and laws of the United States.

It is also contended that the jurisdiction of a State as between it and the United States must be confined to the body of counties; that counties must be defined according to the customary English usage at the time of the adoption of the Constitution of the United States; that by this usage counties were bounded by the margin of the open sea; and that, as to bays and arms of the sea extending into the land, only such or such parts were included in counties as were so narrow that objects could be distinctly seen from one shore to the other by the naked eye. But there is no indication that the customary law of England in regard to the boundaries of counties was adopted by the Constitution of the United States as a measure to determine the territorial jurisdiction of the States. The extent of the territorial jurisdiction of Massachusetts over the sea adjacent to its coast is that of an independent nation; and, except so far as any right of control over this territory has been granted to the United States, this control remains with the State. In *United States* v. *Bevans*, Marshall, C. J., in the opinion, asks the following questions: "Can the cession of all cases of admiralty and maritime jurisdiction be construed into a cession of the waters on which those cases may arise?" "As the powers of the respective governments now stand, if two citizens of Massachusetts step into shallow water when the tide flows, and fight a duel, are they not within the

jurisdiction, and punishable by the laws of Massachusetts?" The statutes of the United States define and punish but few offences on the high seas, and, unless other offences when committed in the sea near the coast can be punished by the States, there is a large immunity from punishment for acts which ought to be punishable as criminal. Within what are generally recognized as the territorial limits of States by the law of nations, a State can define its boundaries on the boundaries of its counties; and by this test the Commonwealth of Massachusetts can include Buzzard's Bay within the limits of its counties.

The statutes of Massachusetts, in regard to bays at least, make definite boundaries which, before the passage of the statutes, were somewhat indefinite; and Rhode Island and some other States have passed similar statutes defining their boundaries. Public Statutes of Rhode Island, 1882, c. 1, §§ 1, 2; c. 3, § 6; Gould on Waters, § 16 and note. The waters of Buzzard's Bay are, of course, navigable waters of the United States, and the jurisdiction of Massachusetts over them is necessarily limited, *Commonwealth* v. *King*, 150 Mass. 221; but there is no occasion to consider the power of the United States to regulate or control, either by treaty or legislation, the fisheries in these waters, because there are no existing treaties or acts of Congress which relate to the menhaden fisheries within such a bay. The rights granted to British subjects by the treaties of June 5, 1854, and May 8, 1871, to take fish upon the shores of the United States, had expired before the statute of Massachusetts (St. 1886, c. 192) was passed which the defendant is charged with violating. The Fish Commission was instituted "for the protection and preservation of the food fishes of the coast of the United States." Title 51 of the Revised Statutes relates solely to food fisheries, and so does the act of 1887. Nor are we referred to any decision which holds that the other acts of Congress alluded to apply to fisheries for menhaden, which is found as a fact in this case not to be a food fish, and to be only valuable for the purpose of bait and of manufacture into fish oil.

The statute of Massachusetts which the defendant is charged with violating is, in terms, confined to waters "within the jurisdiction of this Commonwealth;" and it was evidently passed for the preservation of the fish, and makes no discrimination in favor of citizens of Massachusetts and against citizens of other States. If there be a liberty of fishing for swimming fish in the navigable waters of the United States common to the inhabitants or the citizens of the United States, upon which we express no opinion, the statute may well be considered as an impartial and reasonable

regulation of this liberty; and the subject is one which a State may well be permitted to regulate within its territory, in the absence of any regulation by the United States. The preservation of fish, even although they are not used as food for human beings, but as food for other fish which are so used, is for the common benefit; and we are of opinion that the statute is not repugnant to the Constitution and the laws of the United States.

It may be observed, that § 4398 of the Revised Statutes (a reënactment of § 4 of the joint resolution of February 9, 1871) provides as follows, in regard to the Commissioner of Fish and Fisheries: "The commissioner may take or cause to be taken at all times, in the waters of the seacoast of the United States, where the tide ebbs and flows, and also in the waters of the lakes, such fish or specimens thereof as may in his judgment, from time to time, be needful or proper for the conduct of his duties, any law, custom, or usage of any State to the contrary notwithstanding." This enactment may not improperly be construed as suggesting that, as against the law of a State, the Fish Commissioner might not otherwise have the right to take fish in places covered by the State law.

The pertinent observation may be made that, as Congress does not assert, by legislation, a right to control pilots in the bays, inlets, rivers, harbors, and ports of the United States, but leaves the regulation of that matter to the States, *Cooley* v. *Board of Wardens*, 12 How. 299, so, if it does not assert by affirmative legislation its right or will to assume the control of menhaden fisheries in such bays, the right to control such fisheries must remain with the State which contains such bays.

We do not consider the question whether or not Congress would have the right to control the menhaden fisheries which the statute of Massachusetts assumes to control; but we mean to say only that, as the right of control exists in the State in the absence of the affirmative action of Congress taking such control, the fact that Congress has never assumed the control of such fisheries is persuasive evidence that the right to control them still remains in the State.

Judgment affirmed.

[G.]

LEGISLATION.

Acts of 1891.

[Chapter 52.]

An Act to authorize the proprietors of the new mattakessett creeks in edgartown to fish by means of seines in katama bay.

Be it enacted, etc., as follows:

Section 1. The Proprietors of the New Mattakessett Creeks in Edgartown are authorized to fish by means of seines in that part of Katama bay which lies westward of a straight line drawn due south from the easterly extremity of Katama point to the south beach.

Sect. 2. This act shall take effect upon its passage. [*Approved March 6, 1891.*

[Chapter 122.]

An Act to amend an act for the better protection of lobsters.

Be it enacted, etc., as follows:

Chapter two hundred and ninety-three of the acts of the year eighteen hundred and ninety is hereby amended by striking out after the word "whoever", in the first line, the words "catches and", by inserting after the word "body", in the second line, the words: — or has such tail or tails in possession, — by striking out the word "a", at the end of the fourth line, and inserting in place thereof the word: — any, — and by striking out, in the fifth line, after the word "person", the words "engaged in catching or taking lobsters", so that said chapter as amended shall read as follows: — Whoever mutilates a lobster by severing the tail from the body, or has such tail or tails in possession, before said lobster is cooked shall be punished by a fine of five dollars for each offence; and in all prosecutions under this act the possession, by any person, of the tail of any uncooked lobster so severed from the body shall be prima facie evidence to convict. [*Approved March 26, 1891.*

[Chapter 128.]

An Act relative to the taking of smelts in the county of Nantucket.

Be it enacted, etc., as follows:

Section 1. Section fifty-nine of chapter ninety-one of the Public Statutes is hereby amended by inserting after the word "Barnstable", in the second line of said section, the word: — Nantucket, — so as to read as follows: — *Section 59.* The two preceding sections shall not apply to smelts taken in a seine or net, in the counties of Bristol, Barnstable, Nantucket or Dukes County, during the time and in the manner in which fishing is allowed for perch, herring or alewives.

Sect. 2. This act shall take effect upon its passage. [*Approved March 28, 1891.*

[Chapter 135.]

An Act to prevent the taking of bluefish with nets or seines in a portion of the waters of Wellfleet in the town of Wellfleet.

Be it enacted, etc., as follows:

Whoever takes any bluefish in the waters of Wellfleet bay in the town of Wellfleet with nets or seines, north and east of Smalley's bar inside of a line drawn from Smalley's bar buoy east-south-east to the eastern shore and west-north-west to the western shore, shall forfeit one dollar for each bluefish so taken or be punished by a fine not exceeding one hundred dollars. [*Approved March 28, 1891.*

[Chapter 137.]

An Act relative to the fisheries in the town of Westport.

Be it enacted, etc., as follows:

Section three of chapter one hundred and ninety-three of the acts of the year eighteen hundred and eighty-seven is hereby amended by inserting after the word "taking", in the second line of said section, the words: — at any time except on Fridays and Saturdays of each week, — also by inserting after the word "waters", in the fourth line of said section, the words: — except on said days, — also by inserting after the word "taking", in said fourth line, the words: — except on said days, — so as to read as follows: — *Section 3.* Nothing contained in this act shall apply to the taking at any time except on Fridays and Saturdays of each week, of mackerel in any way in any of said waters, nor to

the taking by hand-nets of smelts, herrings or alewives in any of said waters except on said days, nor to the taking, except on said days, of smelts, herrings, alewives or perch in that part of Westport river north of a line drawn east and west from the south end of Cadman's neck in said river. [*Approved March 28, 1891.*

[Chapter 142.]

An Act fixing the penalty for the taking or killing of woodcock, grouse, quail and duck within certain periods.

Be it enacted, etc., as follows:

Section 1. Whoever takes or kills a pinnated grouse at any time, or a woodcock, or a ruffed grouse, commonly called a partridge, between the first day of January and the fifteenth day of September, or a quail between the first day of January and the fifteenth day of October, or a wood or summer duck, black duck or teal, or any of the so called duck species, between the fifteenth day of April and the first day of September, shall be punished by a fine of twenty dollars for every bird so taken or killed.

Sect. 2. Section one of chapter two hundred and seventy-six of the acts of the year eighteen hundred and eighty-six, as amended by chapter two hundred and ninety-two of the acts of the year eighteen hundred and eighty-eight and by chapter two hundred and forty-nine of the acts of the year eighteen hundred and ninety, is hereby repealed. [*Approved March 28, 1891.*

[Chapter 138.]

An Act to include the month of August in the open season for trout fishing in the county of Hampden.

Be it enacted, etc., as follows:

Section one of chapter one hundred and seventy-one of the acts of the year eighteen hundred and eighty-four, as amended by chapter one hundred and ninety-three of the acts of the year eighteen hundred and ninety, is hereby further amended by striking out the words "and Hampden", in the seventh line of said section, and inserting in place thereof after the word "Franklin", in said seventh line, the word:—and,—so as to read as follows:—The time within which any person is forbidden to take, sell, offer or expose for sale or to have in his possession a trout, land-locked salmon, or lake trout, by sections fifty-one and fifty-three of chapter ninety-one of the Public Statutes, shall be between the first day of September and the first day of April, except in the counties of

Berkshire, Franklin and Hampshire, where such time shall be between the first day of August and the first day of April, under a penalty of not less than ten and not more than twenty-five dollars for each and every violation hereof. [*Approved March 28, 1891.*

[Chapter 164.]

An Act codifying and amending the laws relating to the alewife fishery in Herring river in the town of Bourne.

Be it enacted, etc., as follows:

Section 1. The selectmen of the town of Bourne for the time being or a major part of them are hereby empowered, in the month of March or April annually, to prescribe the time, place or places, and the manner of taking alewives in Herring river in the town of Bourne, such time not to exceed four days in a week; and they may either appoint some suitable person or persons to take the same and fix the compensation to be paid therefor, or they may in their discretion annually sell at public auction the right to take alewives in said river under such regulations as they may make under this section: *provided, however*, that the inhabitants of the town of Sandwich shall have the same rights in the public fishery of said river that the inhabitants of said Bourne shall have. The said selectmen are hereby authorized to offer and pay suitable rewards for the detection and punishment of persons violating the provisions of this act, and shall be entitled to reimbursement from said town of Bourne or from the proceeds of the sale of said right to take said alewives, for all sums expended for the said rewards or the enforcement of this act; and the said town of Bourne in addition to other purposes authorized by law is authorized to raise and appropriate money for enforcing this act.

Sect. 2. The owners or occupants of dams across said river shall annually during such time, not exceeding sixty days in each year, as shall be prescribed by the selectmen of said town or the major part of them for the time being keep constantly open and maintain through, over or around their respective dams a passageway sufficient and proper for the passage of said fish, to the satisfaction of said selectmen, under a penalty of not less than ten nor more than sixty dollars for each and every twenty-four hours they shall neglect to open a passageway as aforesaid; and the said selectmen shall, thirty days at least before the commencement of said period, notify in writing the owners or occupants of said dams of the time when the said passageways shall be opened and the manner in which they shall be constructed and regulated: *provided*,

however, that if any owner or occupant shall at any time be dissatisfied with the determination of said selectmen in relation to the construction or regulation of such passageways, such owner or occupant may, by application in writing to the selectmen of the town of Barnstable for the time being, who are hereby constituted a committee for that purpose, cause such passageway or passageways to be fixed, prescribed and regulated in writing by said committee; and such passageway or passageways shall be kept open and regulated in width and depth by the owners or occupants of said dams and in all respects pursuant to said written determination of said committee, under the same penalty as is hereinbefore provided; and the expense of said committee shall be paid by the owners or occupants of said dam or dams or by the said town of Bourne as said committee shall adjudge.

Sect. 3. The said selectmen of the town of Bourne, either personally or by their agents duly authorized, shall have full power and authority to cause the natural course of the stream through which said fish pass to be kept open and free of obstructions, except the dams aforesaid, and to remove all such obstructions except as aforesaid; and for that purpose as well as for the other purposes of this act they or their agents shall have authority to go upon the land or meadow of any person through which said stream runs, without being deemed trespassers; and if any person or persons shall molest the said selectmen, or either of them, or any of their said agents, in the execution of his or their duties under this act, or shall obstruct the passage of said fish except as aforesaid, the person or persons so offending shall on conviction thereof before any court of competent jurisdiction in the county of Barnstable, pay a fine for every such offence of not less than ten nor more than twenty dollars.

Sect. 4. Any person or persons taking any of the fish aforesaid in said river or in the ponds in which said fish cast their spawn, at any time or in any place or manner other than shall be allowed by said selectmen as aforesaid, or who shall receive such alewives knowing or having reasonable cause to believe that the same have been taken contrary to the provisions of this act, shall for each and every offence, on conviction thereof, pay a fine of not less than five nor more than twenty dollars or shall be imprisoned in the jail or house of correction for a period not exceeding sixty days. The possession of alewives in the woods, swamps and other lands, whether public or otherwise, in the town of Bourne bordering on the said Herring river or its tributaries or in the buildings over or near said river or its tributaries in said town, or in any boat or other craft, cart, wagon or other vehicle in or near said river or

its tributaries, or the pond in which said fish cast their spawn, in the town of Bourne, in the months of April, May or June of each year, by any person or persons other than those lawfully entitled to take the same under said regulations, shall be deemed prima facie evidence of an unlawful taking or receiving under the provisions of this act.

Sect. 5. Any deputy sheriff, police officer or constable of the town of Bourne is hereby empowered to make search for and seize in said town without warrant, any of said fish which he has reason to suspect were taken at any time or place or in any way prohibited by law, together with any boat or other craft, cart, wagon or other vehicle, or the cask, barrel or other vessel containing the same, which if used in such illegal taking or receiving are hereby declared to be forfeited. Said officer immediately after such seizure shall give public notice of the same by posting up notices thereof in two public places near the place where such seizure was made; and if no person or persons shall appear and claim said fish of such officer, within twelve hours after posting said notices, said fish and the boat or other craft, cart, wagon or other vehicle, and the cask, barrel or other vessel containing the same shall be forfeited, and the same shall be sold by public auction, and the net proceeds of such sale shall enure to the benefit of the town of Bourne. If a claimant for such property shall appear within said twelve hours after the posting of said notices the officer shall libel the same according to law, or, at the request of said selectmen or any of them shall sell said fish or other property at public auction, and libel the proceeds of such sale according to law. In case said property or proceeds are forfeited the benefit thereof shall enure to said town of Bourne.

Sect. 6. From and after the passing of this act the inhabitants of said town of Bourne at their annual March meeting shall determine the quantity of said fish that each family in said town shall receive, and establish the price they shall pay therefor.

Sect. 7. One-third of all the forfeitures incurred by virtue of this act shall be paid to the person or persons giving information, and the remaining two-thirds to the town of Bourne, to be recovered in an action of contract in any court having jurisdiction of the same, to be brought by the treasurer of said town, or, if said treasurer shall neglect to bring such action for a space of ten days after being thereto requested, by the person or persons giving the information, in the name and for the sole benefit of such person or persons.

Sect. 8. Chapter one hundred and twenty-six of the acts of the year eighteen hundred and thirty-four, chapter ninety-five of the acts of the year eighteen hundred and fifty-three and chapter

two hundred and two of the acts of the year eighteen hundred and eighty-nine are hereby repealed.

Sect. 9. This act shall take effect upon its passage. [*Approved March 31, 1891.*

[Chapter 203.]

An Act relating to the fisheries in weweantit river.

Be it enacted, etc., as follows:

Section 1. Section three of chapter one hundred and forty-one of the acts of the year eighteen hundred and seventy-seven, is hereby amended by striking out the words "sawdust or other obstruction to the free passage of the said fish or any", so as to read as follows: — *Section 3.* Any person or persons, company or corporation who shall cause or permit any drugs, dye-stuffs, acids, alkalies or any other substance destructive of the life of shad or alewives, to be deposited in or flow into said river or its tributaries at any time of the year shall pay a fine of twenty-five dollars for each and every offence so committed.

Sect. 2. This act shall take effect upon its passage. [*Approved April 17, 1891.*

[Chapter 254.]

An Act relating to evidence in cases of violation of certain game laws.

Be it enacted, etc., as follows:

Section six of chapter two hundred and seventy-six of the acts of the year eighteen hundred and eighty-six is hereby amended by adding, at the end of said section, the words: — and the constructing or setting of any trap, snare or net adapted for the taking or killing of a game bird, water fowl, hare or rabbit, upon premises frequented by such game bird, water fowl, hare or rabbit, shall be presumptive evidence of such constructing and setting with intent to take and kill contrary to law, — so that said section as so amended shall read as follows: — *Section 6.* Whoever takes or kills a game bird or water fowl, hare or rabbit by means of a trap, net or snare, or by the use of a ferret; and whoever, for the purpose of taking or killing a game bird, water fowl, hare or rabbit, constructs or sets any trap, snare or net, or uses a ferret; and whoever shoots at or kills any wild fowl or any of the so called shore, marsh or beach birds with or by the use of a swivel or pivot gun, or by the use of a torch, jack or artificial light, or pursues any wild fowl with or by aid of a sailboat or steam launch, shall be punished by a fine of twenty dollars; and the constructing or

setting of any trap, snare or net adapted for the taking or killing of a game bird, water fowl, hare or rabbit, upon premises frequented by such game bird, water fowl, hare or rabbit, shall be presumptive evidence of such constructing and setting with intent to take and kill contrary to law. [*Approved April 28, 1891.*

[Chapter 327.]

An Act relating to the fisheries in Buzzard's bay.

Be it enacted, etc., as follows:

Section 1. Nothing contained in chapter one hundred and ninety-two of the acts of the year eighteen hundred and eighty-six or acts in amendment thereof, shall be construed to interfere with the corporate rights of any fishing company located on Buzzard's bay, nor in any way to affect the fish weirs mentioned in section seventy of chapter ninety-one of the Public Statutes, nor the use of nets or seines in lawful fisheries for shad or alewives in influent streams of said bay.

Sect. 2. Section four of said chapter one hundred and ninety-two and all acts and parts of acts inconsistent herewith are hereby repealed. [*Approved May 13, 1891.*

Resolutions relating to the adoption of uniform laws for the protection of food fishes in the New England states.

Whereas, There are great variations in the laws of Maine, New Hampshire, Vermont, Rhode Island, Connecticut and Massachusetts, regarding the protection of food fishes, and as a law the same for all the states herein named would be of benefit to all interested, therefore be it

Resolved, That the senate and house of representatives of the Commonwealth of Massachusetts, in general court assembled, request the commissioners on inland fisheries and game to confer with the proper authorities of the states of Maine, New Hampshire, Vermont, Rhode Island and Connecticut, with a view to securing the adoption of uniform laws to protect the food fishes of the states named.

Resolved, That the commissioners on inland fisheries and game be and are hereby requested to report the result of their conference to the general court of the year eighteen hundred and ninety-two.

Resolved, That copies of these resolutions be forwarded to the governors of the states of Maine, New Hampshire, Vermont, Rhode Island and Connecticut.

In Senate, adopted May 18, 1891.

In House of Representatives, adopted in concurrence, June 1, 1891.

[H.]

LIST OF PONDS LEASED

By the Commissioners on Inland Fisheries, under Authority given by Chap. 384, Sect. 9, of the Acts of 1869.

1872.

Jan. 1. Sandy Pond, Forest Lake, or Flint's Pond, in Lincoln, to James L. Chapin and others, 20 years.

1874.

March 2 Upper Naumkeag Pond, in Ashburnham, to inhabitants of Ashburnham, 20 years.

May 20. Unchechewalom and Massapog Ponds, to the inhabitants of Lunenburg, 20 years

July 11. Hazard's Pond, in Russell, to N. D. Parks and others, 20 years.

1875.

May 1. Chilmark Pond, in Chilmark, to J. Nickerson and others, agents, 20 years

July 1. Haggett's Pond, in Andover, to inhabitants of Andover, 20 years.

Aug. 1. Oyster Pond, in Edgartown, to J H Smith and others, 20 years.

1876.

May 20. Lower Naumkeag Pond, in Ashburnham, to inhabitants of Ashburnham, 18 years.

28. Phillipston Pond, in Phillipston, to inhabitants of Phillipston, 20 years.

1877.

March 1. Nine-mile Pond, in Wilbraham, to inhabitants of Wilbraham, 15 years

15. Pentucket and Rock Ponds, in Georgetown, to inhabitants of Georgetown, 15 years

Oct. 1. Fort, Great Spectacle and Little Spectacle Ponds, in Lancaster, to inhabitants of Lancaster, 20 years.

1. Magog Pond, in Acton and Middleton, to inhabitants of Acton, 15 years.

1878.

Jan. 1. Sniptuit, Long, Snow and Mary's Ponds, in Rochester, to inhabitants of Rochester, 15 years

March 16. Asnaconcomic Pond, in Hubbardston, to Amory Jewett, Jr., 15 years.

May 1. Bear Hill Pond and Hall Pond, in Harvard, to inhabitants of Harvard, 15 years.

Oct. 1. Ell Pond, in Melrose, to J. A. Barrett and others, 15 years.

1879.

July 1. Fresh Pond, in Falmouth, to Thomas H. Lawrence, 20 years.
Oct. 1. Pomp's Pond, in Andover, to inhabitants of Andover, 15 years.
Nov. 1. Lake Quinapowitt, in Wakefield, to inhabitants of Wakefield, 14 years.

1880.

March 1. Lake Winthrop, in Holliston, to inhabitants of Holliston, 15 years.
June 1. Jordan Pond, in Shrewsbury, to inhabitants of Shrewsbury, 15 years.
July 1. Swan and Martin's Ponds, in North Reading, to inhabitants of North Reading, 15 years.

1881.

Jan. 1. Great and Job's Neck Ponds, in Edgartown, to Amos Smith and others, 15 years.
April 1. Long Pond, in Blandford, to Samuel A. Bartholomew and another, 15 years.
May 2. Nonesuch Pond, in Weston and Natick, to W. A. Bullard and others, 15 years.

1882.

March 1. Blair's Pond, in Blandford, to Curtis M. Blair and another, 15 years.
April 1. Ward Pond, *alias* Wightman Pond, in Ashburnham, to Herbert F. Rockwood and another, 15 years.
May 1. Horn Pond, in Woburn, to inhabitants of Woburn, 15 years.
June 1. Wickaboag Pond, in West Brookfield, to inhabitants of West Brookfield, 15 years.

1883.

April 6. Fresh Pond, in Tisbury, to Allen Look and others, 15 years.
23. Keyes Pond, in Westford, to M. H. A. Evans, 15 years.
May 7. Singletary Pond, in Sutton and Millbury, to towns of Sutton and Millbury, 15 years.
7. The Great Pond, in Ashfield, to town of Ashfield, 15 years.
July 1. Lake Buell, in Monterey and New Marlborough, to town of New Marlborough, 10 years.

1884.

July 15. Asneybunskeit Pond, in Paxton, to inhabitants of Paxton, 10 years.
15. Center Pond, in Dennis, to inhabitants of Becket, 10 years.
15. Buckmaster Pond, in Dedham, to Francis Soule and others, 10 years.
15. Fresh Pond, in Dennis, to inhabitants of Dennis, 10 years.
17. Farm Pond, in Cottage City, to John C. Hamblin and others, 15 years.
18. Mashpee, Great and Wakeley Ponds, in Mashpee, to inhabitants of Mashpee, 10 years.
Aug. 30. Sand Pond, in Ayer, to inhabitants of Ayer, 15 years.
Sept. 5. Great Pond, in North Andover, to inhabitants of North Andover, 15 years.

[I.]

LOBSTER RETURNS.

1891.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Graciano Rio, . .				
Joseph Rogers, .				
Antoine Francis, .				
John O. Locke, .	Boston, . .	695	51,941	1,391
Joaquin Ferreira, .				
Jose Alberto, . .				
Peter Sylvia, . .				
Alexander Sargent,				
Allen B. Robinson, .	Bay View, .	215	18,170	1,073
Geo. Sargent, . .				
Henry Taylor, .				
Isaac Walker, . .				
Lyman Sears, . .				
Wilfred Keene, .				
B. P. Williamson, .	Brant Rock, .	593	36,236	752
W. H. Tallman, .				
D. B. Blackman, .				
Thomas Pezzy, .				
Henry Phillips, .				
J. H Very, . .				
Charles Foster, .				
John Galloway, .	Beverly, . .	216	20,234	899
Thomas Neville, .				
Frank C Leonard, .				
A. A. Nightingale, .	Bournedale, .	123	4,445	160
A. L. Ellis, . .	Barnstable, .	30	1,836	56
Chas. Boutin, . .				
Levi Thurston, .				
Chas. Rogers, . .	Chiltonville, .	231	22,740	630
H. A. Jordan, . .				
R. F. Swift, . .				
Robert Ainsley, .				
Manuel S. Thomas, .				
J. S. Enos, . .				
John Ferreira, .				
M. Maxim, . .				
Wm. Deane, . .				
Levi Cadoza, . .	Cohasset, . .	775	104,034	2,045
M. S. Almas, . .				
Warren White, .				
H E. White, . .				
Joseph Jason, Jr., .				
John Sylvia, . .				
Joseph Vandura, .				

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Hiram Luce, . .				
Onslow Stuart, .				
Edward Mayhew, .				
Clarence Cleveland,				
Hillard Mayhew, .	Chilmark, .	187	14,614	1,535
Franklin Tilton, .				
Wm. Mayhew, .				
L. C. Atheron, . .				
J. D. Tilton, . .				
Seymour Patterson,				
T. H. Keene, . .				
Harrison Gould, .				
Geo. W. Bloomer, .				
W. A. Bloomer, .				
Reuben Bearse, .	Chatham, . .	720	25,166	1,621
Edmund Rider, .				
Francisco Bloomer, .				
D. P. Clark, . .				
Wm. R. Bloomer, .				
Frank B. Nickerson,				
J. W. Tilton, . .				
Eugene Brightman,				
Russell W. Rotch, .				
Timothy Akin, .				
C. C. Allen, . .				
O. H. Stetson, . .				
J. H. Tilton, . .				
Frank B. Veder, .				
Frank Peters, . .	Cuttyhunk, .	870	82,793	3,923
Otis Eldredge, . .				
Timothy Akin, Jr., .				
Francis Hitchins, .				
Thomas Halloway, .				
Wilber Patterson, .				
E. F. Mayo, . .				
Elias Gould, . .				
J. D. Bloomer, .				
David Rogers, . .				
J. M. Snow, . . .	Duxbury, . .	55	7,274	149
F. E. Phillips, . .				
Thomas Frame, .				
Edmund Marsh, .				
G. M. Peterson, .				
Isaac Symmes, .	So. Duxbury, .	493	54,979	663
E. J. Smith, . .				
W. J. Turner, . .				
Jabes Grigg, . .				
F. H. Pratt, . .				
O. C. Hunt, . .				
F. E. Wardsworth, .				

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
C. E. Peterson, G. F. Freeman, W. E. Peterson, James K. Burgess, W. E. Freeman, J. W. Peterson,	So. Duxbury,	493	54,979	663
John L. Gifford, Tallman Gifford,	Dartmouth,	50	3,117	352
Albert Swain,	Fairhaven,	18	233	19
James Cooper, J. H. Foster, Freeman Smith, B. Altaguin, Moses Cooper, Francis Manning, Amos P. Haskins, Wm. Cook, R. P. Reed, C. H. Ryan, Wyman Vincent, L. E. Cottle,	Gay Head,	394	25,049	3,972
Melvin Parsons, Joseph Parsons, C. A. Parsons, Samuel Tarr, E. F. Parsons, A. & H. Parsons, Nelson Rowe, Everett L. Small, Warren Osier, David N. Mehlman, Robert L. Douglass,	Gloucester,	600	61,686	2,226
Chas. Peterson, Geo. Delano, B. F Simmons, Chas. Tolman, Geo. Sampson, E. R. Lapham, H. P. Tolman,	Green Harbor,	307	18,898	588
John C. Augustus, David Souther, M. D. McDonald, John H. Smith, John Reed, G. T. Augustus, B. F. Pope, F. Smith, A. Galiano, A. B. Cleverley, H. B. Mitchel,	Hull,	1,355	112,480	3,869

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
A. B. Mitchel, . .				
Eben Pope, . .				
Andrew Pope, . .	Hull, . .	1,355	112,480	3,869
Geo. L. Hatch, .				
F. S. & R. James, .				
Rust & Grant, . .				
W. B. Atkinson, .	Ipswich, . .	43	5,189	100
E. A. Ransome, . .	Kingston, .	50	1,745	12
J. J. Woodbury, .				
John W. Roberts, .				
G. H. Woodbury, .				
A. W. Ryley, . .	Lanesville, .	256	22,711	759
Elias Haraden, .				
Adison Woodbury, .				
Ezra Haraden, .				
C. S. Stone, . .				
Edward Lafreniere,	Lynn, . .	57	4,165	5
E. L. Story, . .				
J. B. Knowlton, .				
W. S. Douglass, .				
David Worth, . .	Magnolia, .	260	26,819	1,079
Frank Story, . .				
John G. Burnham, .				
Dodge & Brown, .				
S. Q. Smith, . .				
J. W. Coffin, . .				
W. B. Dennis, . .				
Sans Standley, .				
J. G. Stacy, . .				
John Florence, .				
F. A. Frost, . .				
W. J. Dodd, . .				
J. H. Atkins, . .				
R. T. Millett, . .	Marblehead, .	702	55,576	1,638
Chas. Smethmest, .				
J. T. Adams, . .				
John Smithers, .				
W. H. Tutt, . .				
B. F. Stevens, . .				
J. S. Stone, . .				
Stephen Perkins, .				
E. A. Keene, . .				
Samuel Hooper, .				
A. L. Holmes, . .				
L. B. Briggs, . .				
Rufus Ellis, . .				
Samuel Bartlett, .	Manomet, .	693	50,771	2,735
Henry Dodge, . .				
Thomas Jordan, .				
F. R. Peterson, .				

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
John F. Bartlett, .				
Wm. Harlow, . .				
Harry A. Thomas, .				
F. B. Holmes, . .				
G. W. Holmes, .	Manomet, .	693	50,771	2,735
A. C. Sampson, .				
Wallace Nightingale,				
C. H. Dixon, . .				
W. H. Peterson, .				
Walter Chase, . .				
Warren E. Heath, .				
James McNeary, .				
Chas. Sargent, .	Manchester, .	108	9,847	421
Lewis Sargent, .				
Chandler Lewis, .				
Andrew Hiller, .				
F. A. Bowman, .				
J. J. Nye, . .	Mattapoisett, .	157	3,852	519
Lilburne Hiller, .				
W. K. Perry, . .				
W. L. Richmond, .				
Benj. Atwood, . .				
John Johnson, .				
Carl Place, . .				
Chas. Bates, . .	Nantasket, .	294	29,059	945
J. E. Nickerson, .				
Wm. Norcross, .				
John Watkins, . .				
Samuel Covell, .				
J. W. Taylor, . .	Nahant, . .	170	16,305	325
C. W. Taylor, . .				
C. E. Gove, . .				
J. F. Ramsdell, .	Nantucket, .	59	2,363	57
A. & C. Brooks, .				
F. H. Hayden, . .	Orleans, . .	30	889	121
Jabez Kendall, .				
C. Morgan, . .				
F. Johnson, . .	Pigeon Cove, .	340	30,664	883
Wm. Fears, . .				
E. Lewis & Son, .				
A. R. Gorham, .				
Geo. Atwell, . .				
W. H. Phinney, .				
Cornelius Briggs, .				
A. M. Watson, Jr., .	Plymouth, .	850	87,934	2,518
S. J. Valler, . .				
James Deacon, .				
H. L. Sampson, .				
Geo. Manter, . .				

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Geo. T. Bennison, .				
J. P. Thurston, .				
John M. Watson, .				
B. F. Hodgiss, . .				
A. M. Watson, .				
Augustus Rogers, .				
Wm. Covington, .	Plymouth, .	850	87,934	2,518
D. W. Nightingale, .				
E P. Bartlett, . .				
Isaac H. Valler, .				
Samuel Burgess, .				
J. H. Bagnell, . .				
John B. Walker, .				
J. C. Lenten, . .				
J. W. Savage, . .				
D. Newcomb, . .	Provincetown, .	208	4,724	856
F. M. Bowley, . .				
Wm B. Loring, .				
Oliver D. Griffin, .				
Wm. Stillman, .				
Amos Lufkin, .				
Geo. J. Wendell, .				
J. B. Parsons, . .				
Harvey Pool, . .	Rockport, .	605	37,268	1,470
Samuel Perkins, .				
W. A. Winn, . .				
Geo. E. Wendell, .				
Wm. Knights, . .				
Wm. Day, . .				
Josiah Nickerson, .				
T. E. Stone, . .				
Alfred Watts & Co.,				
Geo. Martin, . .				
J. Frank Blaney, .				
L. Woodbury, . .	Swampscott, .	354	61,741	641
Nathaniel Pierce, .				
G. A. R. Horton, .				
Stephen Hammond & Co.				
Walter Jones, . .				
E. Marsh, Jr., . .				
C. H. Berry, . .				
W. P. Foye, . .	Salem, . .	280	18,063	350
John Clark, . .				
H. G. Tucker, . .				
G. F. Edson, . .				
John Duffey, . .	Scituate, . .	890	74,115	3,778
J. F. Cushman, .				
Jesse Spooner, .				

Lobster Returns — Concluded.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Francis Mulkerne, .				
Robert O. Hearne, .				
James Doherty, .				
Wm. Supple, . .				
E. P. Pratt, . .				
Daniel Ward, . .				
James Hughes, .	Scituate, . .	890	74,115	3,778
John Welch, . .				
Thomas Dwyer, .				
John Barry, . .				
Wm. Ward, . .				
D. P. Sylvester, .				
John Conroy, . .				
Geo. W. West, .				
Stephen Flanders, .	Squibnocket, .	65	3,335	371
A. A. Flanders, .				
Harlow & Chandler, .	Sagamore, .	120	4,995	162
Wm. B. Luce & Co., .	No. Tisbury, .	25	99	10
F. F. Long, . . .	VineyardHaven,	35	665	90
C. H. Collins, . . .	No. Truro, .	15	241	31
John Stephenson, .				
W. E. Wyman, .				
J. B. Wyman, . .				
G. W. Wyman, .				
John Wardsworth, .	Winthrop, .	597	56,128	2,363
Treworgy Bros., .				
Alva Belcher, . .				
Samuel Belcher, .				
B. E. Stuart, . .				
J. F. Cook, . .				
J. K. P. Purdum, .	Wood's Holl, .	117	7,814	802
O. C. Grinnell, .				
G. A. Gifford, . .				
H. F. Hill, . .				
J. W. Manchester, .	Westport, .	131	9,789	1,009
T. J. Brightman, .				
Total men, 327, .	. . . .	15,448	1,292,791	49,973

Comparison of Returns of Lobster Fisheries.

YEAR.	No. of Men.	No. of Traps.	No. of Large Lobsters.	No. of Egg-bearing Lobsters returned to the Water alive.
1889, ...	344	20,016	1,359,645	61,832
1890, ...	379	19,554	1,612,129	70,909
Increase of 1890 over 1889, .	35	–	252,484	9,067
Decrease of 1890 below 1889,	–	462	–	–
Totals of 1881, . . .	327	15,448	1,292,791	49,973
Increase of 1891 over 1890,	–	–	–	–
Decrease of 1891 below 1890,	52	4,106	319,338	20,936

[J.]

POUNDS AND WEIRS.

1891.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.
T. L. Mayo,	Barnstable,	-	-	133,200	-	-	-	-	
Freeman Atwood & Son, James Eldredge,	Brewster,	-	33	-	-	-	69	-	
Antonie Sydney,	Cohasset,	-	-	-	-	-	-	-	
G. W. Gould & Son, Andrew Harding & Co., Reed, Loveland & Co., S. F. Bearse, G. W. Crowell, W. R. Bloomer, Alpheus Mayo,	Chatham,	1	18,284	436,986	302,419	618,125	25	67,078	9
R. Flanders & Co., H. O. Pool & Co., W. A. Gifford,	Chilmark,	-	92	5,545	25,100	5,255	-	31,478	5,59
J. F. Briggs, Ephriam Akin, J. H. & John Manchester, Wait, Smith & Backus,	Dartmouth,	-	730	639,696	893	40,115	714	183,253	36,81
Geo. Priaulax, Nicholas Priaulax, Benjamin Queriple, E. D. Howland, W. S. Mathews, Geo. A. Snell,	So. Dartmouth,	-	341	185,135	5,641	32,670	106	262,562	13,00
A. T. Chase, Zenas H. Baker, Thatcher Kelley,	Dennis,	-	2,133	109,946	37,976	30,481	1	50,674	19
Peter Higgins, N. M. Knowles,	Eastham,	-	-	16,594	75,400	1,400	-	-	
Isaiah Spindell & Co., John Rogers,	Falmouth,	-	187	154,512	25	65,571	-	546,564	17,22
A. W. Allen,	Fall River,	-	17	17,950	26	-	3	670	3,44
Peter B. Davis, Jason Luce & Co., Timothy Akins, Jr., H. J. Allen, J. P. Holmes, A. B. Veeder & Co., Church & Keeneg, C. C. Allen, John Manley,	Gosnold,	1	250	9,556	120	5,587	-	978,088	11,17
Clarence Tibbetts, Douglas & Hodgkins, B. S. Brazier, Geo. W. Douglass, Joseph Parsons,	Gloucester,	1	102	80,010	48,448	102,744	1	3	
B. Luce & Co., Wm. L. Pease,	Gay Head,	-	12	922	724	7,157	35	60,303	3,89
D. F. Weeks & Co.,	Harwich,	-	959	34,125	23,800	58,700	16	31,088	59
Cyrus Nickerson,	South Harwich,	-	220	2,345	11,010	31,800	-	14,660	24
W. K. Perry, Byron P. Dunn, A. B. Bowman,	Mattapoisett,	-	29	6,738	280	4,495	47	45,489	1,84
Jones Bros., C. W. Heath & Co.,	Manchester,	-	-	41,426	249,211	144,445	-	-	
Frank Tarr, Alfonzo Tarr,	Magnolia,	-	22	11,152	212,180	158,398	-	3	
Timothy L. Mayo,	Nahant,	-	-	-	283,200	22,720	-	-	

POUNDS AND WEIRS.

1891.

Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
-	-	42,462	-	4	-	39	229,624	-	49	671	1,195	-	10,400	5
-	-	-	-	-	5	1	44,527	-	3,228	9	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	4,041	1,270	-
11	1,096	221,802	5	58	2	-	303,946	-	109	320	35,365	1,056	262,955	1,092
65	5,587	14,621	-	95	3,325	-	2,469	10	415	112	17,294	-	5,646	-
131	105	92,034	795	164	68	169	1,432	15	1,470	3,446	65,644	69	25,454	34,210
2	110	229,950	8,654	4	13	-	14,270	39	276	15,275	81,560	965	52,739	21
112	27	39,383	1	7	948	-	164,613	3	582	258	4,769	88	78,422	905
-	-	1,710	-	-	4	-	56,218	-	7,470	-	7,974	-	1,300	-
37	20,143	234,763	-	1	1,579	-	7,235	37	2,756	3,585	8,203	-	149,167	200,000
3	160	-	-	-	-	-	-	-	-	285	2,000	-	-	-
58	39,767	208,217	4,169	239	5,703	102	4,707	3	834	679	11,332	-	44,624	169,710
-	-	31,933	-	36	251	1	422,544	-	38	11	-	-	77,511	9,670
28	5,357	23,509	1,427	27	3,450	-	2,771	11	411	41	15,831	-	7,460	-
143	322	25,899	-	-	3	-	9,750	-	348	494	5,761	14	93,111	939
-	389	17,155	-	-	-	-	2,990	-	222	423	1,707	-	176,400	-
46	20	42,830	64	-	-	-	667	6	89	1,249	3,610	781	4,164	5,649
-	-	34,654	-	222	-	-	167,084	-	2	-	-	-	-	54,750
-	-	32,919	-	935	-	63	198,330	-	48	22	57	-	-	61,099
-	-	2,100	-	-	-	3	98,176	-	-	-	-	-	-	-

Pounds and Weirs — Concluded.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.
J. C. P. Harvender, .									
T. K. Paine, . .									
Henry J. Lewis, . .	Provincetown, .	–	2,738	71,000	2,318,475	443,029	10	157	12
Solomon Bangs, . .									
J. A. Lewis, . .									
Robert E. Cornwell, .									
H. B. Cash, . . .	Nantucket, .	–	13	91	–	12	–	717	31
W. J. Fisher, . .									
Warren Cove Weir Co., .	Plymouth, .	–	–	–	–	–	–	–	–
J. B. Parsons, . . .	Rockport, . .	–	–	–	5,700	10,000	–	–	–
Joshua Smith, . .	Sandwich, .	–	51	3,665	1,350,042	113,212	1	56	1
Robert S. Perry, . .									
Frank Luther, . .	Somerset, . .	–	1	15,842	–	–	6	–	5
John Simmons, . .									
Thomas Neville, . . .	Salem, . .	–	–	–	71,500	13,373	–	–	–
Obed S. Daggett, . .	No. Tisbury, .	–	118	–	35,439	24,603	362	16,226	946
R. A. Rich, . .									
S. B. Atwood, . .	Truro, . .	–	174	32,657	2,652,403	6,067	–	54	15
P. L. Paine, . .									
Solomon B. Rich, .									
Atkins & Hughes, . .	No. Truro, .	–	–	–	1,754,700	1,200	–	–	–
Oscar B. Bradley, . .	Vineyard Haven,	–	–	667	–	–	10	1,305	71
N. B. Rich, ...	Wellfleet, . .	–	–	–	379,200	–	–	–	–
J. M. Soule, . . .	Westport, . .	–	–	3,139	–	–	–	–	–
Chas. F. Hitt, . . .	So. Westport, .	–	–	2,133	–	–	–	–	–
C. B. Coombs & Co., .									
P. M. Stuart, . .	Wood's Holl, .	–	81	24,075	1,000,000	35,697	7	869,008	3,554
Isaiah Spindell, . .									
J. J. Veeder, . .									
Totals, 87, . . .	. . . .	3	26,587	2,039,107	10,643,504	1,976,856	1,413	3,160,446	98,749

Pounds and Weirs — Concluded.

Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
6	18	109,110	490	448	1,373	635	300,985	7	1,855	2,606	29,678	932	22,600	3,877
-	-	4,465	-	-	1	-	1,203	1	2,924	-	-	-	-	-
-	-	-	-	-	7	-	56,564	-	25	-	-	-	-	-
-	-	-	-	-	-	-	12,635	-	-	-	-	-	-	-
-	1	33,164	-	104	14	56	239,235	-	36	546	1,936	-	18,207	-
-	-	-	57,754	-	-	-	-	-	-	39	1,334	6,839	-	22,685
-	-	12,072	-	-	-	-	14,561	43	10	45	-	410	287	-
506	2,506	13,872	-	213	1,896	-	450	-	661	859	5,365	-	10,732	-
6	-	3,330	-	3,037	76	682	273,268	148	1,419	207	16,496	49	39,995	4,471
-	-	6,900	-	1,438	-	691	356,341	-	2,300	6	14,304	-	24,490	-
-	-	-	-	-	-	-	-	-	-	-	5,334	2,088	6,490	-
-	-	-	-	110	-	17	46,665	-	37	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	200
-	-	-	1,059	-	-	-	-	-	-	-	20	179	36	511
54	1,645	24,345	6,000	102	81	-	12,554	-	741	2,288	12,747	-	13,185	-
1,208	77,249	1,501,199	80,418	7,244	18,799	2,459	3,045,814	323	28,355	33,476	389,416	17,511	1,126,645	569,794

[K.]

GILL AND SWEEP NETS.

1891.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.
C. C. Bearse,	Barnstable,	–	–	–	–	561	2	–
David B. Shove,	Berkley,	–	125	115,000	–	–	–	–
Howard Winslow,	Brewster,	–	–	2,600	–	–	–	–
Alexander Sargent,	Bay View,	1	216	–	8,800	–	–	–
F. Bloomer & Son, E. Z. Ryder, Benjamin F. Patterson, Cyrenus Ellis, E. F. Mayo & Bros., C. C. Nickerson, C. D. Hammond, E. S. Gould, William F. Hitchings, J. A. Crowell, E. C. Eldredge, Alvin J. Aikins, Geo. E. Small, H. F. Gould, Jeremiah Eldredge, G. W. Bloomer, David P. Clark, John S. Ryder,	Chatham,	–	31	2,231	300	1,389	140	94
Robert Ainslee, John Sylvia, J. D. Kelley,	Cohasset,	–	–	–	–	–	–	–
Wm. Kelley, W. W. Hallett,	Centerville,	–	28	–	–	–	–	250
John C. Hamblin,	Cottage City,	–	–	5,000	–	–	–	–
H M. Smith's Estate,	Chilmark,	–	–	30,625	–	–	–	–
C. N. Simmons, Isaac A. Hardy, I. N. Babbitt,	Dighton,	–	888	489,550	–	–	–	–
G. G. Snow,	Dennisport,	–	–	–	–	–	–	–
Alonzo K. Higgins, H. B. Hinckley,	North Eastham,	–	–	–	–	–	–	–
John Davis, David N Mehlman,	Gloucester,	–	–	–	36,970	–	–	–
Orrin S. Crosby, Walter Carney, E. Taylor,	Hyannis,	–	8	171	–	798	225	52
W. T. Tuttle,	Harwich Port,	–	–	–	–	–	–	
John W. Roberts, J. J. Woodbury, James W. Marchant,	Lanesville,	–	5	10,180	63,571	–	–	1
Benjamin F. Stevens, Raymond Glass, Stephen Perkins,	Marblehead,	–	–	–	158,900	–	–	–
Randall Hathaway,	Middleborough,	–	–	210,285	–	–	–	–
Cornelius Briggs, G. W. Holmes,	Manomet,	–	–	–	76	–	–	–
A. H. Shurtleff,	Mattapoisett,	–	–	493,700	–	–	–	–
Henry Colton,	Medford,	–	–	179,659	–	–	–	–
John Watkins, Geo. H. Hamblin, M. J. Francis, E. W. Folger, B. B. Pease, J. O. Freeman, Frank Meiggs,	Nantucket,	–	1	–	241	68	3	92

GILL AND SWEEP NETS.

1891.

Squeteague.	Kingfish.	Sea Bass.	Butterfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
-	-	-	-	-	-	-	-	-	5,104	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	4,491	-	494	1	-	-	-	5,235
149	-	300	257	1,160	463	1	21,873	2	9,074	23	-	467	-	-
-	-	-	705	-	-	-	906	-	-	-	-	325	-	-
16	-	124	1,992	-	2	-	12	18	6,167	-	-	-	-	-
-	-	-	-	-	-	-	-	-	200	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	1,761	-	-	2,837	-	-
-	-	-	-	-	-	-	20,875	-	1,584	-	-	-	-	-
-	-	-	-	-	-	-	517	-	-	-	-	-	-	-
367	-	16	536	-	-	-	2,035	-	9,832	15	5	-	-	-
-	-	-	-	-	29	-	1,020	-	169	-	-	-	-	-
-	-	-	312	519	-	-	3,655	-	-	7	-	-	48	-
-	-	-	-	250	-	-	576	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	123	-	-	-	1,241	-	1	-	-	-	-	221
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	1	229	29	31	-	1,002	4	4,711	-	3	-	-	-

Gill and Sweep Nets — Concluded.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.
C. A. Caswell, Lorenzo Phinney, Nester L. Thurlow,	Newburyport,	–	–	362,350	149,600	2,479,572	–	–
A. L. Walker,	Orleans,	–	–	–	3,400	4,750	–	–
Martin Currier, Joseph Bushey, Calvin Parsons, Ervine Parsons, J. J. Poole, Joseph Brown, Murdock Matherson, Joseph E. Weeks, H. L. Mayo, John M. Roser, B. R. Kelley, J. H. Little, Geo. Lewis, John J. Cook,	Pigeon Cove,	–	18	210	21,332	–	–	–
Geo. H. Lewis, Elisha Nickerson, W. H. Ellis, E. W. Smith, A. L. Daggett, Ruben Ryder, Jesse Ghen, Hutsuld Freeman, William M. Euell,	Provincetown,	–	–	258	6,855	–	–	–
J. C. & E. Barnes, Wm. Harlow, A. C. Sampson,	Plymouth,	–	–	6,425	–	–	–	–
G. B. & E. Williams, Gustavus King,	Raynham,	–	867	249,925	–	–	–	–
E. W. Wilber,	Somerset,	–	56	86,300	–	–	–	–
Thomas L. Prouty, G. F. Edson, J. P. Jordan, W. K. Turner, James Edson, Christopher O'Neil, John Flarity,	Scituate,	–	–	119	4,691	318	–	–
G. A. R. Horton, T. W. Brackett,	Swampscott,	–	–	–	10,495	35,740	–	–
John W. Hart,	Taunton,	–	111	83,365	–	–	–	–
Geo. B. & E. Williams,	East Taunton,	–	404	115,868	–	–	–	–
C. H. Collins,	No. Truro,	–	–	–	–	–	–	–
R. S. Lombard, B. F. Lombard,	So. Truro,	–	–	–	–	–	–	–
B. S. Young,	Wellfleet,	–	–	221,608	–	–	–	–
L. W. White, John H. Waite, J. S. Austin, A. G. Allen, Frank D. Grinnell,	Westport,	–	1	38,981	–	–	1	–
D. S. Baker, H. F. Crowell, P. P. Akin,	So. Yarmouth,	–	8,000	211,305	–	–	–	–
Totals, 115,		1	10,759	2,915,715	465,241	2,523,196	229	489

Gill and Sweep Nets — Concluded.

Squeteague.	Kingfish.	Sea Bass.	Butterfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
-	-	-	38	-	-	-	-	-	-	-	-	56,160	-	-
-	-	-	-	-	-	-	-	-	995	34	-	-	-	-
-	-	-	694	42,000	-	-	14,398	-	-	-	-	-	4	-
-	-	52	1,859	4,536	2	4	71,731	83	13,711	-	25,889	-	-	12,331
-	-	-	-	-	-	-	1,443	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	327	-	-	-	10,434	-	19	-	-	-	-	1,088
-	-	-	-	-	-	-	4,901	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	1,400	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2,250	-	1,342	-	135	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	25	-	-	-	-	-	-	-	-	-	961	-	5,449
-	-	-	-	-	-	-	-	-	90	-	-	6,508	-	-
535	440	78	7,082	48,494	498	5	163,750	89	55,254	80	26,824	66,466	55	24,324

Comparison of Returns for the Years 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889 and 1890.

Year.	Fisheries. Kind.	No.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
1882,	Pounds and weirs,	85	27,769	1,420,919	1,201,449	8,102	4,219	1,991,480	67,266	3,289,512	310	133,805	40,512	114,843	4,016	-
1883,	" "	87	5,994	1,250,263	339,116	4,048,022	2,876	1,848,583	92,671	4,756,490	246	60,182	35,481	184,387	5,361	-
1884,	" "	93	5,392	715,886	2,806,203	308,381	6,950	1,641,129	74,826	1,440,486	99	109,694	23,929	288,930	33,980	-
1885,	" "	80	18,088	1,066,148	6,564,619	6,255	1,365	1,240,630	17,746	2,643,190	24	32,575	47,231	317,082	7,741	128,698
1886,	" "	58	15,874	1,012,802	1,364,684	48,910	2,412	1,966,243	3,226	1,290,466	20	17,315	47,490	261,595	11,570	572,334
1887,	" "	62	14,044	1,458,820	1,713,846	127,951	1,233	2,153,504	15,742	1,069,609	109	44,204	89,075	304,492	7,615	812,810
1888,	" "	83	50,057	1,054,607	6,665,698	1,202,777	2,455	1,448,451	127,602	2,877,768	115	38,376	63,214	358,917	10,805	2,716,892
1889,	" "	103	25,591	1,417,950	17,000,308	1,203,669	4,924	1,331,673	36,043	825,152	524	17,287	69,719	289,993	20,163	1,859,924
1890,	" "	88	22,961	1,198,561	4,432,690	2,911,970	5,302	354,423	43,988	1,297,264	1,242	60,633	25,637	210,476	9,180	958,872
1891,	" "	87	26,587	2,039,107	10,643,504	1,976,856	1,413	3,160,446	98,749	3,045,814	323	28,355	33,476	389,416	17,511	569,794
1888,	Traps, fykes and irregular returns,	8	-	5,150	252,685	7,750	-	-	-	288,466	-	-	-	3,123	3,544	-
1889,	Traps, fykes and irregular returns,	15	2,994	89,516	1,212,942	184,239	64	86	54	64,938	13	2,690	339	2,246	2,060	76,073
1882,	Gill nets and sea seines,	133	1,738	424,630	310,611	633	1,427	99,046	4,205	587,087	87	191,668	6,245	33,487	3,033	-
1883,	" "	112	26	41,996	79,689	937,627	838	6,254	1,102	392,535	4	131,815	966	12,681	1,755	-
1884,	" "	85	6,544	67,312	541,689	1,526	632	7,855	3,254	216,829	6	136,068	1,578	19,031	2,426	-
1885,	" "	78	444	117,674	82,151	9,546	601	26,854	1,656	183,156	1	101,371	233	30,948	967	5,454
1886,	" "	49	22	397,727	151,782	311	1,524	13,019	42	75,463	9	32,348	1,039	14,592	21,670	17,326
1887,	" "	35	801	347,109	779,211	57	601	676	2,586	177,401	3	22,018	457	14,206	30,416	4,708
1888,	" "	142	92,010	468,934	734,374	94,310	1,349	7,704	2,027	633,627	2,172	199,546	1,314	30,738	18,701	52,049
1889,	" "	208	4,533	401,445	357,054	202,094	1,421	4,062	4,545	271,017	157	55,718	2,576	35,745	199,360	80,008
1890,	" "	183	1,448	174,213	686,948	239,474	1,980	2,289	1,141	209,863	1,488	181,401	754	29,950	81,979	94,448
1891,	" "	94	8,308	161,363	315,641	43,624	229	489	535	163,750	89	55,254	80	26,824	10,336	24,324
1882,	Connecticut River seines,	3	2,770	-	-	-	-	-	-	-	-	-	-	-	-	-
1883,	" " "	4	3,591	-	-	-	-	-	-	-	-	-	-	-	-	-
1884,	" " "	2	1,593	-	-	-	-	-	-	-	-	-	-	-	-	-

| | | |

Comparison of Returns, etc. — Concluded.

Year.	Fisheries. Kind.	No.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
1885, .	Total returns, . . .	184	25,347	3,747,750	6,546,770	15,801	1,881	1,267,484	19,402	2,826,346	25	133,946	47,464	348,030	8,708	134,152
1886, .	" " . . .	124	19,466	3,183,741	1,520,466	49,221	3,936	1,979,262	3,268	1,395,850	29	55,031	48,678	276,187	58,872	590,659
1887, .	" " . . .	112	19,292	3,108,642	2,345,632	97,510	1,833	2,144,973	18,357	1,057,565	112	66,422	89,065	320,220	50,071	818,639
1888, .	" " . . .	264	149,200	3,767,929	7,669,493	1,556,036	3,275	1,672,610	129,850	3,801,393	2,489	240,874	70,523	432,710	40,634	2,875,420
1889, .	" " . . .	352	40,461	3,617,929	14,919,159	4,326,352	6,414	1,335,821	40,642	1,161,107	694	75,695	72,634	327,984	221,583	2,015,993
1890, .	" " . . .	291	29,303	3,038,920	5,482,120	6,931,804	7,282	356,712	45,130	1,507,617	2,730	242,034	26,391	240,920	102,789	1,112,320
1891, .	" " . . .	202	37,346	4,954,822	11,108,745	4,500,052	1,642	3,160,935	99,284	3,209,564	412	83,609	33,556	416,240	83,977	594,118
	Increase of 1885 over 1884, .	–	7,648	1,393,969	3,198,878	–	–	–	–	1,169,031	–	–	16,957	40,059	–	–
	Decrease of 1885 below 1884,	21	–	–	–	294,106	5,701	381,500	58,678	–	80	111,816	–	–	27,698	–
	Increase of 1886 over 1885, .	–	–	–	–	33,420	2,005	711,778	–	–	4	–	1,214	–	50,164	456,507
	Decrease of 1886 below 1885,	60	5,881	564,009	5,026,304	–	–	–	16,134	1,430,496	–	78,915	–	71,843	–	–
	Increase of 1887 over 1886, .	–	–	–	825,166	48,289	–	165,711	15,089	–	83	11,391	40,387	44,033	–	227,980
	Decrease of 1887 below 1886,	12	174	75,099	–	–	2,103	–	–	338,285	–	–	–	–	8,801	–
	Increase of 1888 over 1887, .	152	129,908	642,287	5,323,861	1,438,526	1,442	–	111,493	2,743,828	2,377	174,452	–	112,490	–	2,556,781
	Decrease of 1888 below 1887,	–	–	–	–	–	–	472,363	–	–	–	–	18,542	–	9,437	–
	Increase of 1889 over 1888, .	88	–	–	12,249,666	2,790,316	3,139	–	–	–	–	–	2,111	–	180,949	–
	Decrease of 1889 below 1888,	–	108,739	150,000	–	–	–	336,789	89,208	2,640,286	1,795	165,179	–	104,726	–	859,427
	Increase of 1890 over 1889, .	–	–	–	–	2,605,452	868	–	4,488	346,510	2,036	166,339	–	–	–	–
	Decrease of 1890 below 1889,	61	11,168	579,009	14,437,039	–	–	979,109	–	–	–	–	46,243	87,064	118,794	903,673
	Increase of 1891 over 1890, .	–	–	1,915,902	5,626,625	–	–	2,804,223	53,754	1,701,947	–	–	7,165	175,320	–	–
	Decrease of 1891 below 1890,	89	2,492	–	–	2,431,752	5,640	–	–	–	2,318	158,425	–	–	18,812	518,202

PUBLIC DOCUMENT . . . . No. 25.

REPORT OF THE COMMISSIONERS

ON

INLAND FISHERIES AND GAME

FOR THE

YEAR ENDING DECEMBER 31, 1892.

BOSTON:
WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
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Commonwealth of Massachusetts.

To His Excellency the Governor and Honorable Council.

The Commissioners on Inland Fisheries and Game beg leave to present their twenty-seventh annual report.

Fishways.

The fishway at Lawrence will require some repairs next spring. By an arrangement authorized by the Legislature one-half of the expense of construction and repairs of this fishway is to be borne by the State.

The fishway on Cole's River, in Swanzey, has been inspected, and, if the fisheries of this river are to be maintained, a new pass should be built with as little delay as possible.

Complaints have been made in regard to the fishway at Middleborough, which is the same as those successfully used on most of the rivers and streams in the State. The trouble, if any, is not in the construction of the fishway proper. It enters the river some way below the dam, (and, from the construction of the dam and its surroundings, this could not be avoided), therefore many fish that were bred below pass by it, up to the foot of the dam. To obviate this an arrangement has been made with the owner of the dam to put a grating or rack at the foot of the fishway, so that they cannot pass by it. Fish passed over the way last spring, and more young fish ran down from the pond this fall than for many years.

Near the close of the spring run of fish a meeting was held at this place, with the fishermen of Taunton River and the selectmen of Middleborough, and the whole question of the fisheries of this river was discussed. It appeared in evidence that there was too much fishing on the upper part of the river; that the town of Middleborough had sold its right to the fisheries to a person who appeared at times oblivious to the laws regulating the fishing; and

that many thousand fish were unlawfully taken at that place. Fisheries cannot be successfully maintained under the management of irresponsible parties; and, when they are located near the headwaters of the river or near the spawning grounds, there are obligations which extend beyond the limits of town rights.

The fishway at Squabetty is out of repair, and the owners have been notified to put it in order.

LAWRENCE, Nov. 16, 1892.

EDWARD A. BRACKET, *Chairman Fish Commission.*

DEAR SIR: — I enclose my report of fish seen in the fishway this year. Have postponed sending it a little, hoping the rise in the river might bring up some salmon, but none have appeared; the rise came too late, I think.

The noticeable thing this year is the almost entire absence of alewives in the fishway; the cause I do not know, — perhaps they were caught below.

Also I think the run of salmon was the largest, *in the same length of time*, of any year. One salmon weighing ten pounds was caught with a hook and line in the river about a mile below here, by a well-known fisherman of Lawrence. There was no fall run of salmon, for there was no water until November 7 for them to run in; river has been very low.

The fishway is in fair condition; there have been no repairs of any account this season, but next year there should be some slight change at the upper end, as I pointed out to you. Have tried to get Mr. Knowles to make an estimate of the cost, but he has not yet done it. Saw him again Monday, and shall see him again, as I suppose you would like the estimate.

Yours very sincerely,

THOMAS S. HOLMES.

9 SOUTH BROADWAY.

FISH IN THE LAWRENCE FISHWAY IN THE SEASON OF 1892.

May 10. A few lampreys.
11 to 30. The water was high, and fishway at the lower end was under water; saw no fish.
31. Lampreys, run moderate.
June 1 to 7. Lampreys, run large.
8. One salmon, 8 pounds; lampreys, run large.
9 to 12. Lampreys, run large.
13. Six salmon, 7 to 14 pounds; lampreys, run large.

June 14. Three salmon, 8 to 20 pounds; lampreys, run very large; one alewife. Flashboards were set on south end of dam in the forenoon, this lowered the water below the dam, so that there was a slight fall from the end of the fishway to the pool below. This pool was crowded full of lampreys, — hundreds of them.

15. Three salmon, 8 to 20 pounds; lampreys, run moderate.

16. Lampreys, run moderate; small silver eels, run moderate; two alewives.

17. Four salmon, 12 to 18 pounds; lampreys, run small; silver eels, run moderate.

18. Two salmon; lampreys, run small; silver eels, run moderate.

19. One salmon; lampreys and silver eels, run moderate.

20. Two salmon; lampreys, run large; two black bass; silver eels, run moderate.

21. Two salmon, 10 to 20 pounds; lampreys, run small; silver eels, run moderate.

22. One salmon, 8 pounds; lampreys, run small; silver eels, run moderate.

23 and 24. Two black bass, a few lampreys and silver eels.

25. One salmon, 10 pounds; a few lampreys and silver eels.

26. One salmon, 12 pounds; two black bass. River rising all day.

27. Six salmon, 10 to 20 pounds; four black bass; a few lampreys and silver eels.

28. Seven salmon, 10 to 18 pounds; a few lampreys and silver eels.

29. Three salmon, 10 to 15 pounds; a few silver eels and suckers.

30. One salmon, 14 pounds; a few suckers and silver eels.

July 1. One salmon; one alewife; a few silver eels.

2. Eight salmon, 9 to 18 pounds; one lamprey; a few suckers and silver eels.

3. One salmon; a few suckers and silver eels.

4. One salmon; a few suckers and silver eels.

5. A few suckers and silver eels.

6. One salmon, 12 pounds; a few suckers and silver eels.

7. Two salmon, 12 to 18 pounds; a few suckers and silver eels.

8. Eleven salmon, 10 to 18 pounds; a few suckers and silver eels.

9. Eight salmon, 12 to 20 pounds; a few suckers and silver eels.

10. One salmon, 12 pounds; a few suckers and silver eels.

11. Four salmon, 10 to 14 pounds; a few suckers and silver eels.

12. One salmon, 10 pounds; a few suckers and silver eels.

13. One salmon, 16 pounds; one black bass; a few suckers and silver eels.

14. Suckers, run small; silver eels, run moderate.

July 15 to 21. Silver eels, run moderate; a few suckers and chubbs.

21, 8 A.M., to 23, 1.30 P.M., water shut out of fishway; river low.

23 and 24. Silver eels and suckers, run small.

24, 9 A.M., to August 6, 1.40 P.M., water shut out of fishway; river low.

Aug. 6, 6 P.M. Suckers and silver eels, run small.
7. Silver eels, run small; a few suckers.
8 and 9. Silver eels, run small.
10, 7 A.M., shut water out of fishway; river low.
13, 12.30 P.M., let water into fishway; river rising. At 6 P.M., two black bass and a few silver eels and suckers in the way.
14 and 15. Silver eels and suckers, run small.
16. Two black bass; silver eels and suckers, run small.
17 and 18. Silver eels and suckers, run small.
19. Four black bass; silver eels, run moderate; a few suckers.
20. Two black bass; silver eels, run moderate; a few suckers.
21. Three black bass; silver eels, run moderate; a few suckers.
22. Two black bass; silver eels, run moderate; a few suckers.
23. Silver eels, run small; a few suckers and chubbs.
24 to 29. Silver eels, run small.
30 to Sept. 4, high water in the river; could see no fish.
Sept. 5 to 11. Suckers and eels, run small.
12. One black bass; suckers and eels, run small.
13 and 14. Suckers and silver eels, run small.
15. Two black bass; suckers, run moderate; silver eels, run small.
16. One black bass; suckers, run moderate; silver eels, run small.
17. Two black bass; suckers, run moderate; silver eels, run small.
18 to Oct. 5. Suckers, run small.
Oct. 5 to Nov. 7, water shut out of fishway; river very low.
Nov. 7. Let water into the fishway, but no fish have appeared in the way up to this date (November 16); evidently the rise in the river came too late for salmon this season.

THOMAS S. HOLMES,
In Charge of Lawrence Fishway.

SALMON.

Of the spring run of salmon, eighty-four were seen passing through the Lawrence fishway. Owing to the low stage of water, the usual fall run were prevented from running up the Merrimac. One salmon was taken by hook and line (fly-fishing) below the Lawrence dam, and several between Lowell and Concord; a number were killed by dynamite or some other unlawful method, six miles above Nashua; and many are reported to have been taken in the weirs. The penalty for taking salmon in any other way except with naturally or artificially baited hook and line is "not less than *fifty* nor more than *two hundred* dollars for each fish so taken." Those who are inclined, hereafter, to engage in this illegal fishing, may find it to their interest to respect the law.

Alewives.

Complaints have come from several localities, stating that there has been a great decrease in the alewife fisheries this year. Whether this is due to climatic conditions or to mismanagement, is a question which those interested in these fisheries should carefully study, remembering that any cause for this decrease must date back at least three years, as it is well known that the alewife becomes a spawning fish at the age of three years. Whether shad and alewives spawn only once in two years, as is the case with salmon, is still an open question. Whatever may be the facts as to the time of their casting spawn, a stream once stocked with them cannot be depleted except by overfishing or by neglecting to provide a free passage to the breeding grounds. They are comparatively but little affected by climatic conditions.

The following table of the catch of alewives in this State for the past ten years shows less fluctuation than of any land crop: —

1882,	4,446,280	1888,	3,767,929
1883,	4,178,682	1889,	3,617,929
1884,	2,353,781	1890,	3,038,920
1885,	3,747,750	1891,	4,954,822
1886,	3,183,741	1892,	3,179,923
1887,	3,108,642		

These fish are easily increased to almost any extent, and there is no other product from sea or land that yields so much food at so little cost. As the price for other fish has gone up, the demand for alewives has increased, and it may surprise many who are interested in the economy of living to know that there are small streams in this State that yield annually from seventy-five to one hundred tons of healthy food that sells at less than two cents per pound, and that a number of "towns have sold their rights" to these fisheries at from one to two thousand dollars a year. We have in former reports called attention to the ruinous practice of selling this right for one or two years to persons whose sole interest is in catching all they can, regardless of the consequences. No man would be so unwise as to lease

a farm under such conditions, and the only wonder is that this method has not ruined these fisheries. They have certainly been more or less affected by it, and some rendered almost worthless. The decrease of the yield of the weirs, and the rapid vanishing of that ideal supply of bait at the mouth of the Merrimac, suggest that, not only as a matter of food, but also as a factor in supplying fishing vessels with bait, the alewife fisheries must continue to advance in value.

Shad.

The depletion of the great shad fisheries of the Connecticut River has been so thoroughly discussed in former reports that it is not necessary to repeat it here. In 1879 the catch was 436,981, while this year it is reported to be about 3,000. It is feasible to restock this river, but it can only be done by the adoption of such wholesome restrictions upon fishing on the river by both Massachusetts and Connecticut as will protect the young shad until they are mature enough to cast their spawn. Many of the fishermen at the mouth of the river depended largely upon these fish for a living, and their destruction has greatly impoverished them. The history of the rise of the shad fisheries of the Connecticut River through artificial propagation, and their subsequent decline through overfishing, forms an object lesson which these fishermen can now study at their leisure.

The following table shows the catch of shad in this State, in pounds, weirs and seines, during the last eleven years: —

	Salt Water.	Fresh Water.
1882,	28,991	14,330
1883,	6,020	9,140
1884,	6,544	5,741
1885,	18,532	6,812
1886,	15,896	3,570
1887,	14,845	5,428
1888,	142,067	7,183
1889,	33,118	8,143
1890,	35,955	4,892
1891,	34,895	2,457
1892,	14,872	2,056
Total,	351,735	69,752

Trout.

There were received, from the joint hatchery at Plymouth, N. H., last January, 554,000 trout eggs. They were a remarkably fine lot of eggs, and were hatched with a loss of less than four per cent.

The following is the list of persons to whom the trout were delivered, with location of planting: —

Barnstable County.

Frank Thacher, Yarmouthport.
A. S Backus, Centreville.
Chas. H. Nye, Hyannis.
J. S. Nicholson, Hyannis.
Loring Crocker, Barnstable.
C. L. Hopsen, Falmouth.
Franklin Crocker, Yarmouth.
Capt. E. P. Boggs, Hatchville.
Frank A. Smith, So. Brewster.

Bristol County.

Geo. H. Herrick, Attleborough.
E. C. Parmenter, No. Attleborough.
O. P. Richardson, Attleborough.
Wm. J. Luther, No. Attleborough.
E. S. Brown, Fall River.
F. A. Booth, Westport.
Dr. J. Sweet, Acushnet.
S. R. Bennett, Dartmouth.
A. H. W. Carpenter, New Bedford.
J. L. Humphrey, Jr., Dartmouth.
E. J. Heffernan, Westport.
Chas. W. Copeland, So. Somerset.

Plymouth County.

Benj. F. Gibbs, E. Wareham.
A. Savary, Wareham.
A. D. Makepeace, Carver.
Wm. H. Atwood, Mattapoisett.
H. F. Babcock, So. Carver.
E. Finney, Chiltonville.
W. S. Hadaway, Chiltonville.
Horatio Chandler, Duxbury.
H. B. Chandler, Duxbury.
Elwood Chandler, Kingston.
Geo. L. Baker, Plymouth.
T. W. Cole, Lakeville.

Norfolk County.

H. C. Metcalf, Walpole.
E. Fuller, Walpole.
H. D. Dupee, Walpole.
C. Terry, No. Weymouth.
E. Brooks, Milton.
H. W. Trowbridge, Stoughton.
Wm. Levering, Highlandville.
John B. Fisher, W. Dedham.
S. D. Parker, Blue Hill.
Edw. Knobel, Dedham.
A. C. Pratt, So. Weymouth.
H. L. Williams, Dedham.
H. B. Endicott, Dedham.
E. B Nevin, Weymouth.
Geo. A. Fletcher, Milton.
S. F. McCracken, Wellesley.
A. E. Lincoln, W. Stoughton.
E. A. Richardson, Wellesley.

Essex County.

Geo. W. Twitchell, Boxford.
C. K. Fox, Haverhill.
A. U. Bickford, Danvers.
H. B. Nash, Groveland.
S. R. Harris, Ipswich.
H. E. Rice, Danvers.

Suffolk County.

N. F. Mayo, Franklin Park (Revere).

Middlesex County.

Philip Piper, Ashby.
W. W. Cummings, Burlington.
O. M. Bennett, Shirley and Lunenburg.
C. A. Jones, Woburn.
J. H. Goodell, Framingham.

Middlesex County — Concluded.

Rolfe Bradbury, Westford.
C. H. Barber, Framingham.
G. C. Fiske, Ashland.
A. Griffin, Acton.
T. Bixby, Townsend.
G. H. Cushman, Framingham.
E. U. Saul, Sudbury.
G. L. Lawson, So. Chelmsford.
G. F. Lawson, Carlisle.
J. Beatty, Lincoln.
J. B Heald, M.D., Pepperell.
J. H. Fletcher, Belmont.
A. W. Morse, Sudbury.
E. D. Hayden, Burlington.
J. W. Huntoon, M.D., Billerica.

Worcester County.

T. H. Shea, Fitchburg.
Dr. F. W. Burleigh, Fitchburg.
Sydney Harrocks, Fitchburg.
Wm. H. Gibbs, Clinton.
A. J. Bartlett, Winchendon.
H. P. Kendall, Sterling.
F. F. Bullard, Worcester.
Wm. Lawrence, Shrewsbury.
Wm. R. Albertson, Boylston.
Jas. Manning, Shrewsbury.
G. C. Bates, Wilkinsonville.
J. W. Fairbanks, Westborough.
J. F. Whitcomb, Athol.
C. W. Bates, Phillipston.
Green & Ladd, Spencer.
Aug. Taylor, Lunenburg.
C. V. Dudley, Northbridge.
L. Healy, Dudley.
E. S. Hill, Dudley.
Dr. D. W. Hodgkins, E. Brookfield.
M. Carroll, Milford.
L. W. Barney, Northborough.

Hampden County.

W. A. Chase, Holyoke.
A. G. Wright, Montgomery.

Hampden County — Concluded.

H. H. Patten, Hampden and Monson.
J. A. Murphy, Springfield.
H. M. Newell, Longmeadow.
C. L. Goodhue, Agawam.
R. J. Hamilton, W Springfield.
Herman Bacholz, E. Longmeadow.
C. M. Dean, Palmer.

Hampshire County.

E. H. Guild, Ware.
E. E. O'Neil, Ware.

Franklin County.

Geo. E. Taylor, Shelburne.
S. P. Cook, Northfield.
W. M. Burt, Greenfield.

Berkshire County.

M. V. B. Edgerly, Becket.
Dr. L. Corcoran, Becket.
E. A. Perkins, Becket.
Thos. N. Birnie, Becket.
H. R. Bloodgood, New Marlborough.
C. F. Smith, Adams.
C. W. Burton, Cheshire.
R. A. Thompson, Savoy.
E. J. Noble, Windsor.
W. W. Butler, Zylonite.
C. J. Whitney, Clarksburg.
C. L. Smith, Williamstown.
A. J. Witherell, N. Adams.
F. S. Rice, Florida.
Austin Stowell, Pittsfield.
J. H. Wood, Pittsfield.
W. H. Nichols, Richmond.
R. L. Mason, Hancock.
Thos. Post, Lenox.
S. P. Butler, Lanesborough.
Chas. P. Taylor, Hinsdale.
L. Clement, Otis.
C. E. Bostwick, W. Stockbridge.

Twenty thousand were sent to the new hatchery at Wilkinsonville, to be reared and kept for breeders.

But for the negligence of two persons, there would have been little or no loss in transportation, and even with these mishaps it was less than one per cent.

That there may be no misunderstanding, we would state that the fry are carefully measured (dry measure), and in all cases, unless a smaller number is asked for, each applicant receives the same number of fish. Where several persons in the same locality club together, asking for an undue amount for their vicinity, it becomes necessary, in justice to other towns, to reject a part of the applicants.

The success in restocking our streams with trout has awakened so much interest that it is impossible at present to meet the demand for the fry.

The new hatchery at Wilkinsonville, eight miles from Worcester, has been completed, with the exception of outside painting; hatching troughs, trays and piping have been supplied, and all work done necessary to enable the superintendent to take care of what eggs can be obtained this year; the ground around the house underdrained, and partially graded. Above the house a dam seventy-four feet long and seven feet high has been constructed across the stream, with flume, gateway and piping for supplying the hatchery and tanks below. This dam was built by driving plank in the centre, and banking both sides heavily with earth sufficiently wide for a driveway, guarded by a substantial railing on both sides, and flows a good-sized pond, supplied by a stream fed by springs. The bottom of the pond is mud, and at the upper end is an arrangement for capturing the fish as they pass up to spawn.

Mr. William Lawrence, who has charge of the hatchery, has caught and put into one of the tanks and into the pond about five hundred adult trout, ranging in weight from one-fourth of a pound to a pound. As near as can be estimated, there are now in tanks, pond and the stream above and below the works, ten or fifteen thousand trout, — most of them yearlings, taken from the hatching house at Winchester last spring. As they are healthy, and making a remarkable growth, the greater portion of them will become spawning fish next fall. The supply of water will enable us to keep a large number of breeders, which will be secured as early as possible. It was not expected that we should be

able to get any spawn here this year; but Mr. Lawrence, the superintendent, by perseverance and energy procured the adult trout alluded to above, which enables us to secure about 25,000 eggs this fall.

The two acres of land which under the terms of the lease can be bought for three hundred dollars should be secured at once.

As a matter of economy, as well as for the safety of the works, a small dwelling-house should be built on the premises for the superintendent, and a fence built around the hatchery and ponds.

Report of E. B. Hodge, Commissioner of New Hampshire, and Superintendent of the Joint Hatchery, Plymouth, N. H.

To the Commissioners on Inland Fisheries and Game for the Commonwealth of Massachusetts.

Gentlemen: — I herewith submit my annual report of the joint work done at this station for the year ending Dec. 1, 1892.

From the salmon taken from the headwaters of the Merrimac River last season there were secured 200,000 eggs. They were a fine lot, and were hatched and planted in the Pemigewasset River, with but little loss. The young salmon, from four to six inches in length, were very plenty this season in July and August. The number of adult salmon taken at the hatchery this season is much less than last year. Although reported very plenty in the Merrimac above Nashua and Manchester, they did not come up as far as this station.

Of the brook trout eggs taken last year 564,000, being one-half of the whole number taken after the unimpregnated eggs were removed, were sent to Massachusetts, as directed by the chairman of your Board. The same loss occurred this season as last by the early spawning of large females before there were any ripe males. Many of the largest and oldest trout have died the past season, having reached the limit that they will live in confinement. This, with the loss of eggs by the early spawning of many large females, will reduce the number of eggs taken this year below that of last year's crop. Two thousand four hundred and sixty wild brook trout have been added to the stock of breeding trout in the ponds this season. As all of these were five inches and over in length, they will add materially to the stock of eggs another season. The price paid for the above trout was three dollars per hundred, delivered at the hatchery.

Respectfully yours,

E. B. Hodge, *Superintendent.*

Plymouth, Dec. 1, 1892.

Lobsters.

At a hearing before the Legislature of 1889, for the better protection and preservation of the lobster fisheries, there were present over a hundred fishermen, representing every town on the coast of Massachusetts where this industry is of any value. Their opinions were freely expressed, either personally or by counsel. All were in favor of protecting the egg-bearing lobsters, and all but one favored the ten and one-half inch law. The only fear they expressed was that the law would not be enforced, and law-abiding fishermen be handicapped by the lawless element which exists more or less among the fishermen. Many of the more intelligent men among them offered to aid us in our efforts to protect the fisheries. The law of 1889 passed both houses by a unanimous vote, and the Legislature placed in the hands of the commissioners what was supposed to be sufficient means to enforce the law.

A large number of prosecutions have been made, and up to the present time the fines paid into the courts have gone far toward reimbursing the State for its expenditures in this direction. The lawless fishermen have been driven from one thing to another, until at last they have adopted a device which makes it difficult to detect them. They put their short lobsters in traps or small crates and bags, and sink them, to be taken up at night and either put on board lobster smacks to be carried out of the State, or sent to restaurants and places of summer resort. A majority of these violators are foreigners or persons from other States. This creates dissatisfaction among the law-abiding fishermen, who complain that they put over the small lobsters only to have them caught and sold by others. In justice to those who are living up to the law, and in the interest of economy to the State, we recommend that the act of 1889 be amended as follows: —

Section three of chapter one hundred and nine of the acts of the year eighteen hundred and eighty-nine is hereby amended by inserting before the words "all cars," etc., the following words: "All traps and contrivances for taking lobsters shall have their

slats not less than two inches apart, and shall, with the buoys attached to them, have the name and residence of the owner or owners legibly marked thereon;" so that said section shall read as follows, viz.: —

Sect. 3. All traps and contrivances for taking lobsters shall have their slats not less than two inches apart, and shall, with the buoys attached to them, have the name and residence of the owner or owners legibly marked thereon; and all cars or other contrivances for keeping lobsters shall have the name and residence of the owner or owners legibly marked thereon, under the penalty prescribed in section seventy-five of chapter ninety-one of the Public Statutes.

If this amendment is enacted it will allow almost all lobsters, less than ten and one-half inches in size, to pass out of the traps, and save the fishermen much labor in sorting their catch. Several lobster catchers have already adopted this arrangement, and it should be made universal by law. It was not until lobsters were reduced in size by overfishing, and the market was open to small ones, that the slats on lobster traps were put closer together than two inches. In all countries where fisheries are protected, the size of mesh of nets is regulated; and there seems to be no good reason why the same principle should not be applied to lobster traps.

Chapter 403, Acts of 1892, should either be amended or repealed, as it has no force whatever as it now stands.

Captured Menhaden Steamers.

The case of the officers and crew of the menhaden steamers captured in Buzzard's Bay was decided by the United States supreme court against the defendants, and on the 13th of April, 1892, they were sentenced in Barnstable court, and fined $2,184.30, including costs.

As a sequence to these prosecutions, the owners of the menhaden steamers endeavored to procure the passage of an act through Congress, known as the Lapham bill, giving them the right to capture menhaden and mackerel wherever they could find them, regardless of any State law. As this involved the rights of all seaboard States and those bordering on the great lakes, His Excellency the Governor of

Massachusetts, foreseeing the danger of such legislation to our fisheries, promptly sent a message to the Legislature, which resulted in the passage of the following resolutions: —

Resolutions relating to the Fisheries of Massachusetts.

Resolved, That the senate and house of representatives of Massachusetts, in general court assembled, respectfully call the attention of the congress of the United States to the fact that the menhaden, mackerel and other fisheries along the sea coast and shore of Massachusetts are of great importance and value to her people; that the Commonwealth has made large expenditures for the protection and preservation thereof, and that any interference with the rights of the people of Massachusetts therein, as now established by the supreme court of the United States, would be of great damage and injury to them. And therefore they respectfully memorialize congress to refrain from abrogating or interfering with the interests in and control over said fisheries, now held and exercised by the Commonwealth of Massachusetts, and especially to refrain from enacting such legislation as is embodied in bill number five thousand and thirty, now pending in the house of representatives of the United States.

Resolved, That the governor of the Commonwealth of Massachusetts be authorized and requested to appoint two or more suitable persons, who shall appear before the committee on merchant marine and fisheries of the house of representatives of the United States at the hearing upon said bill, to state the position of Massachusetts upon the subject, and to oppose said bill as being injurious to her interests and to the welfare of her people; and further

Resolved, That a copy of these resolutions be transmitted to each of the senators and representatives of Massachusetts in congress, and that they are hereby requested to protect by all proper means the rights and interests of Massachusetts in the premises.

In Senate, adopted Feb. 16, 1892.

In House of Representatives, adopted in concurrence Feb. 25, 1892.

The State was represented before the congressional committee by one of your commissioners, and also by the attorney-general, whose exhaustive and forcible presentation of the case will be found in the Appendix. The bill was rejected by the committee, on the ground of its unconstitutionality.

The confiscation of the bonded menhaden steamers requires a separate action in the courts, and they have not yet been brought to trial. As this is entirely under the control of the district attorney, your commissioners do not feel responsible for the delay. The history of these cases would be interesting reading to those who are laboring under the impression that the acts of the Legislature regulating the fisheries are always promptly and disinterestedly enforced.

Steamer "Ocean Gem."

We commenced to put the steamer in order for the season on the 19th of April. After painting and making all necessary repairs to the hull and machinery, she sailed for the fishing grounds on the 29th of May, with Capt. W. H. Proctor of Swampscott in command, and was employed in the suppression of the illegal taking and marketing of egg-bearing and small lobsters; and, as far as the present law would admit, the taking and shipping was successfully stopped. There are several vessels from New York and other ports outside of this Commonwealth engaged in this nefarious traffic. They approach the coast during the night, purchase the lobsters at a very low price, and are away before morning for a market; and without a proper boat like this the waters of the south-eastern coast would soon be depleted.

The necessary change in the law is treated at length under report of lobsters. Since the decisions of the United States supreme court in the cases of the menhaden steamers they have not attempted to use their seines in the protected waters of Buzzard's Bay, and this natural spawning ground of the menhaden has not required the presence of the steamer, as in years past.

She was continued in commission until the 13th of September, when she was laid up with proper care for winter, apparently in good condition, requiring only the usual outlay for repairs another season.

Captain Proctor gives a full report of seizures, arrests and convictions. His management of the steamer as commanding officer has been very satisfactory to the commissioners, he having patrolled the coast at all times without any

accident of importance, and having fully demonstrated his ability to fulfil all requirements of the commissioners.

Game.

The laws for the protection of game are more generally observed than heretofore, and are regarded with yearly increasing favor by the people.

The disease of last year continues among the grouse, causing a decrease in numbers. It is not to be expected to prevail another year, judging by the past history of like occurrences.

We renew the suggestions of last year, concerning the desirability of a law providing for a bounty for the destruction of predatory vermin. The increase of these animals is large, and is not appreciated by people not given to knowledge and observation of this matter. The preserved value of farm products resulting from the destruction of such animals would, in our opinion, be many times the amount paid out in bounties.

The desirability of the maintenance of game wardens, with sufficient funds and authority therefor, becomes more and more apparent as the years go by. Intelligent continued action for the preservation of the game is justified by each year's added experience. In the Appendix will be found the proposed amendment to the game law.

Conclusion.

The returns from the lobster fisheries show a decrease from the catch of last year, which is largely due to the fact that less men engaged in the business, and there were 1,384 less traps used. As it takes seven years from the time the lobster is hatched to reach ten and one-half inches in length, the results of protecting the egg-bearing lobsters, the distribution of spawn, and the close enforcement of the laws, will not be apparent until those hatched during the last three years reach a marketable size. The small ones are reported to be very plenty in several localities.

Also, the returns from the weirs and gill nets show a great falling off in the catch of shad, alewives, menhaden, scup, squeteague and blue-fish, while the catch of mackerel and

sea-herring has been larger this year than any year since 1882. The mackerel have been distributed through the country at a price that has brought this valuable food fish within easy reach of all. The sea-herring, supplying bait to the deep-sea fishermen, have enabled them to secure a supply near home, saving the time and expense of going to the eastern shores of Maine and Newfoundland, and have furnished employment to a large number of men on shore. An industry of such great value to all classes of citizens should be carefully cared for by the State, and no legislation should be entertained that would tend to cripple this important branch of the shore fisheries.

Under the resolutions passed June 1, 1891, an adjourned meeting of the New England Commissioners of Fish and Game was held at the State House, Boston, November 16, a brief report of which will be found in the Appendix.

The United States Commissioner, Major McDonald, has called a convention of the commissioners of fisheries of all the States, to meet in Chicago next August, for the purpose of consultation and co-operation. Believing that it is for the interest of Massachusetts that she should be represented, we recommend an appropriation for that purpose.

E. A. BRACKETT,
E. H. LATHROP,
I. C. YOUNG,

Commissioners of Inland Fisheries and Game.

APPENDIX.

[A.]

LIST OF FISH COMMISSIONERS.

The United States.

Col. Marshall McDonald, Commissioner, . Washington, D. C.
Capt. J. W. Collins, Assistant in Charge of Fisheries Division.
Richard Rathbun, Assistant in Charge of Scientific Inquiry.

Alabama.

Col. D. R. Hundley, ... Madison.
Hon. Chas. S. G. Doster, ... Prattville.

Arizona.

T. W. Otis, ... Prescott.
John Howard, ... Prescott.
C. W. Stearns, ... Phenix.

Arkansas.

H. H. Rottaken, President, ... Little Rock.
W. B. Worthen, Secretary, ... Little Rock.
J. W. Callaway, ... Little Rock.
This State has never made an appropriation for fish culture.

Dominion of Canada.

Hon. C. H. Tupper, Minister of Marine and Fisheries, Ottawa.
Hon. John Tilton, Deputy Minister, Ottawa.
S. P. Bauset, Chief Clerk, Ottawa.
Samuel Wilmot, Superintendent of Fish Culture, Ottawa.
Inspectors of Fisheries: J. R. Kinney, Yarmouth, N. S.; R. C. Hockin, Pictou, N. S.; A. C. Bertram, North Sydney, N. S.; J. H. Pratt, St. Andrews, N. B.; R. A. Chapman, Moncton, N. B.; D. Morrow, Oromocto, N. B.; E. Hackett, Tignish, P. E. I.; W. Wakeman, Gaspe Basin, P. Q.; Thos. Mowat, New Westminster, B. C.; Alex McQueen, Winnipeg, Manitoba; F. C. Gilchrist, Fort Qu'Appelle, N. W. T.
Officers in Charge of Fish-breeding Establishments: S. Wilmot, Superintendent of Fish Culture, Newcastle, Ont.; Chas. Wilmot, Officer in Charge, Newcastle hatchery, Ont.; Wm. Parker, Sandwich, Ont.; L. N. Cattelier, Tadoussac, Q.; H. Davis, Gaspe, Q.; A. H. Moore, Magog, Q.; Alex Mowat, Restigouche, Matapedia, P. Q.; A. B. Wilmot, Bedford, N. S.; C. A. Farquharson, Sydney, N. S.; Isaac Sheasgreen, Miramichi, N. B.; Charles McCluskey, St. John River, Grand Falls, N. B.; Henry Clark, Dunk River, P. E. I.; Thomas Mowat, B. C. hatchery, New Westminster, B. C.

NEWFOUNDLAND.

Hon. A. W. Harvey, Chairman, St. Johns; M. Harvey, Secretary, St. Johns; Adolph Nielson, Superintendent of Fisheries, St. Johns.

CALIFORNIA.

Joseph Routier, ... Sacramento.
J. D. Harvey, ... Los Angeles.
C. M. Joslyn, ... San Francisco.

COLORADO.

Gordon Land, ... Denver.

CONNECTICUT.

Rob't B. Chalker, ... Saybrook.
James A. Bill, ... Lyme.
Wm. S. Downs, ... Birmingham.

The Shellfish Commissioners are: Dr. Wm. H. Hudson, Chairman, Hartford; George C. Waldo, Bridgeport; Bryant A. Treat, Wallingford.

DELAWARE.

Charles H. Shubert, ... Odessa.
Dr. E. G. Shortlidge (Supt. of Hatcheries), . Wilmington.

GEORGIA.

R. T. Nesbitt, ... Atlanta.
Dr. H. H. Cary, Superintendent, . . . La Grange.

ILLINOIS.

N. K. Fairbank, President, ... Chicago.
S. P. Bartlett, ... Quincy.
Geo. Breuning, ... Centralia.

INDIANA.

Col. W. T. Dennis, ... Richmond.

IOWA.

E. D. Carlton, ... Spirit Lake.
Ole Bjorenson, Superintendent.

KANSAS.

John M. Brumbaugh, ... Concordia.

MAINE.

E. M. Stillwell, ... Bangor.
Henry O. Stanley, ... Dixfield.
E. W. Gould, Sea and Shore Fisheries, . . Searsport.

MARYLAND.

G. W. Delawder,	Oakland.
G. R. Rider,	Salisbury.

MASSACHUSETTS.

E. A. Brackett,	Winchester.
I. C. Young,	Wellfleet.
E. H. Lathrop,	Springfield.

MICHIGAN.

Hoyt Post,	Detroit.
Herschel Whitaker,	Detroit.
Joel C. Parker, M.D.,	Grand Rapids.
Walter D. Marks, Superintendent,	Paris.
George D. Mussey, Secretary,	Detroit.
William A. Butler, Jr., Treasurer,	Detroit.

MINNESOTA.

William Bird,	Fairmont.
Niles Carpenter,	Rushford.
Robert Ormsby Sweeny, President,	Duluth.
S. S. Watkins, Superintendent,	Willow Brook, St. Paul.

MISSOURI.

H. M. Garlichs, Chairman,	St. Joseph.
J. L. Smith,	Jefferson.
Edw. Cunningham,	St. Louis.
A. C. Garlichs, Secretary,	St. Joseph.
Philip Kopplin, Jr., Superintendent,	St. Louis.
James W. Day, Superintendent,	St. Joseph.

NEBRASKA.

William L. May,	Fremont.
J. C. McBride,	Lincoln.
B. E. B. Kennedy,	Omaha.
M. E. O'Brien, Superintendent,	South Bend.

NEVADA.

Geo. T. Mills,	Carson City.
Ernest Harris, Deputy,	Carson City.

NEW HAMPSHIRE.

Elliott B. Hodge,	Plymouth.
W. H. Griffin,	Henniker.
Nathaniel Wentworth,	Hudson.
Elliott B. Hodge, Superintendent of Plymouth and Sunapee hatcheries,	Plymouth.

New Jersey.

William Wright, ... Newark.
Frank M. Ward, ... Newton.
Robt. D. Foote, ... Morristown.
W. A. Newell, ... Pennsville.

New York.

E. G. Blackford, President, ... Newark.
L. Huntington, ... New Rochelle.
William H. Bowman, ... Rochester.
A. S. Joline, ... Tottenville.
Henry Burden, ... Troy.
E. P. Doyle, Secretary, room 311, Potter Building, ... New York City.
Superintendents: Fred Mather, Cold Spring Harbor; Monroe A. Green, Caledonia; E. L. Marks, Fulton Chain; E. F. Boehm, Mill Creek; and J. G. Roberts.
Shell-fish Commission: E. G. Blackford, Commissioner; William G. Ford, Engineer; J. W. Merserau, Oyster Protector, 80 Fulton Market, New York; Chief Game and Fish Protector, J. W. Pond, Albany.

Ohio.

C. V. Osborn, President, ... Dayton.
J. A. Henshall, Secretary, ... Cincinnati.
E. D. Potter, ... Toledo.
J. H. Newton, ... Newark.
Wm. R. Huntington, ... Cleveland.
G. W. Hull, Chief Warden, ... Lima.
Wm. Lantz, Superintendent of Fisheries, . Sandusky.

Oregon.

F. C. Reed, President, ... Clackamas.
G. T. Meyers, ...
R. C. Campbell, ... Ranier.

Pennsylvania.

Henry C. Ford, President, 524 Walnut Street, Philadelphia.
James V. Long, Corresponding Secretary, 75 Fifth Avenue, ... Pittsburg.
H. C. Demuth, Secretary of Board, . . . Lancaster.
S. B. Stilwell, ... Scranton.
L. Streuber, ... Erie.
W. L. Powell, Treasurer, ... Harrisburg,
John P. Creveling, Superintendent, . . Allentown.
William Buller, Superintendent, . . . Corry.

RHODE ISLAND.

Henry T. Root, Treasurer,	Providence.
William P. Morton, Secretary,	Johnston.
J. M. K. Southwick,	Newport.

SOUTH CAROLINA.

Hon. A. P. Butler,	Columbia.

TENNESSEE.

W. W. McDowell,	Memphis.
H. H. Sneed,	Chattanooga.
Edward D. Hicks,	Nashville.

UTAH.

A. Milton Musser,	Salt Lake City.

VERMONT.

John W. Titcomb,	Rutland.
Charles C. Warren,	Waterbury.

VIRGINIA.

Dr. J. T. Wilkins,	Bridgetown.

WEST VIRGINIA.

C. S. White, President,	Romney.
F. J. Baxter, Treasurer,	Sutton.
N. C. Prickett, Secretary,	Ravenswood.

WISCONSIN.

The Governor, *ex officio*.	
Philo Dunning, President,	Madison.
C. L. Valentine, Secretary and Treasurer,	Jamesville.
Mark Douglass,	Melrose.
A. V. H. Carpenter,	Milwaukee.
Calvert Spensley,	Mineral Point.
E. S. Miner,	Sturgeon Bay
James Nevins, Superintendent,	Madison.

WYOMING TERRITORY.

Louis Miller,	Laramie.

[B.]

A Brief Report of the Conference of the New England Commissioners of Fish and Game, held in Boston, Nov. 16, 1892.

Pursuant to a vote passed at a meeting of the commissioners of New England at the State House, Boston, last year, Hon. E. A. Brackett, chairman of the Fish and Game Commission of Massachusetts, issued a call for the same commissioners to meet at the same place on Wednesday, November 16, at eleven o'clock. There were present at this meeting the following commissioners: —

Maine.
Henry O. Stanley, Dixfield.
E. W. Gould, M.D., Searsport.

Massachusetts.
E. A. Brackett, Winchester.
E. H. Lathrop, Springfield.
I. C. Young, Wellfleet.

New Hampshire.
E. B. Hodge, Plymouth.
W. H. Griffin, Henniker.

Connecticut.
Wm. M. Hudson, Hartford.
R. B. Chalker, Saybrook.
R. S. Downs, Huntington.

Rhode Island.
J. M. K. Southwick.

Besides the above-named commissioners were the following invited guests: Hon. Marshall McDonald, United States fish commissioner; ex-Commissioner Asa French and Mr. Walter M. Brackett.

The meeting was called to order by Hon. E. A. Brackett, chairman, who stated that at the meeting last year the chairman was authorized to call a meeting at his discretion, and to invite all the commissioners of New England, and others interested in fish culture. He had invited all the commissioners. Hon. E. M. Stillwell of Maine was in town, but was detained at his hotel by illness. The Vermont commissioners were unable to be present, owing to a fish and game law now pending in their Legislature; representatives were present from the other New England States.

He then read the following letter from United States Commissioner McDonald: —

United States Commission of Fish and Fisheries,
Washington, D. C., Nov. 11, 1892.

Hon. E. A. Brackett, *Chairman Massachusetts Commission of Fish and Game, Winchester, Mass.*

Dear Sir: — It will give me much pleasure to attend the meeting of the New England Fish and Game Commissioners, to be held at the State House, Boston, November 16. I was about to visit Gloucester, Mass., on official business.

Some of the New England commissioners have apparently misapprehended the policy and plans of work of the United States Fish Commission, and I shall be glad of the opportunity for a full discussion and conference in reference to matters of common interest.

Very truly yours,
M. McDonald, *Commissioner.*

Commissioner McDonald was then introduced. He stated that he had come rather to listen than to present his views. He believed it was desirable that the State Commissioners should understand clearly the policy of the United States Commission, and its desire to co-operate with the State commissions; and pointed out the need of collecting such data as would enable the commission to supply material upon which to base rational legislation.

The great question, to-day, is how to regulate the fisheries so as to afford the protection needed without harsh restraint in taking fish for market. The policy of the commission has always been to improve and maintain a supply of fish for the market; and for this we cannot depend upon the hook and line alone, — we must use the net. The question of how to regulate the net fisheries is an important one. If the natural supply fails, recourse must be made to restocking artificially, wherever it is feasible, as with shad and salmon.

He alluded to the importance of fuller knowledge of the spawning habits of fish, and referred to the need of such information last winter, when the Lapham bill was before Congress. Considerable attention has been given by the commission, during the past summer, to the spawning habits of the menhaden. The information so far obtained points to the conclusion that they spawn all along our coast. Further investigations will be made during next year. Requests for observations on this subject have been made to all connected with the menhaden fisheries. The supply may depend upon the protection of the fish during their spawning season, the same as shad and herring.

Mr. Southwick. Was not the spawning fish you refer to from a school that arrived here much earlier than usual? I think the time is earlier than these fish appear in our waters.

Mr. Brackett. We have made some observations on these fish, during the last two years, in Buzzard's Bay, and I think they commence spawning early, for the bay was full of little menhaden, about an inch long, in July. There were none seen as early as you mention, but they may enter our waters earlier than we are aware of, and possibly they may spawn before coming to the surface in schools, as I understand you to say that they are bottom feeders. Early in October we could dip up thousands of them, from three to four inches long.

The value of menhaden as supplying mercantile commodities, and their importance as food for other fish, was discussed. A general discussion then followed, on the question of the shad fisheries. Dr. Hudson alluded to the artificial propagation and increase of shad in the Connecticut River. In 1873 they were abundant; the fishermen found them plenty, and immediately the pounds and nets increased with great rapidity; and every point where a net could be swung was occupied. As fast as the fish increased the nets multiplied, and, as a result, at the present time the Connecticut River contains very few shad. You cannot keep up a supply of fish in a river under such circumstances.

Commissioner McDonald. If we cannot keep up the supply in a river naturally, it must be supplied artificially.

Mr. Chalker spoke of the jetty system employed at the mouth of the Connecticut, which it was claimed had much to do in lessening the catch of shad. At one point a catch of about thirty thousand was made one season, and after the jetty was built the catch fell to almost nothing.

The course of the shad in their approach to the New England shores was discussed at length. It was stated that shad which had spawned in a river would return to that river the following year. Mr. McDonald gave an interesting account of planting shad in California waters, and stated that they had appeared in rivers where none had been placed.

In response to a question in regard to the shad fishery in the Connecticut and Merrimac rivers, Mr. Brackett stated that these fish had decreased to such an extent in both rivers that there were but few left. He also described a large run of alewives which passed up the Merrimac as far as the Lawrence dam, where they were stopped, then descended the river and went up the Ipswich River, greatly crowding it.

Commissioner McDonald explained that the snow will retard the run of shad, and the warm rain will hasten the run; the temperature of the water has much to do with the movements of fish.

Mr. Downs referred to the chemical refuse from paper and woollen mills, and the poisonous matter from brass foundries, which polluted the Connecticut River, and thought it must prove injurious to the fish.

Mr. McDonald referred to the Hudson, and the amount of manufacturing pollution and traffic there, and the condition of the fish; that up to the last year it had maintained its fisheries without perceptible decrease.

Mr. Brackett instanced the manufacturing on the banks of the Merrimac, and yet salmon, which require purer water than any other fish except trout, ascend the river without injury. They also go up the Connecticut River. The pollution does not mingle with the current, but is confined to the sides near the banks. The citizens of Lowell and Lawrence draw their water supply from the Merrimac, and he held that, if the people could drink the water without injury, the fish could stand it.

Mr. Downs said that in the Housatonic the fish died from the pollution; the fish would come to the surface of the water, and people would wade in and pick them up.

Mr. McDonald said the pollution of a river may affect young fish more than adult.

Mr. Downs could not understand why the fish should come to the surface if they were not affected by the pollution.

Commissioner McDonald, at the request of those present, made a statement in regard to the increase of shad in the waters of the country; although they had diminished in some waters, there was a general increase in the fisheries south of New England. It is a curious fact that, when shad are numerous in the Chesapeake, they fall off in the Delaware.

Dr. Hudson referred to the meeting of the American fisheries, to be held in Chicago, Aug. 8, 1893, and paid a tribute to the work of that society. He thought every State should have at least one representative present at each meeting, for the papers read there and the opportunities for gaining knowledge were of great importance. He hoped that Commissioner McDonald would call a meeting of all the fish and game commissioners of the United States to convene at Chicago about the same time. If they did, it would probably be the largest meeting of commissions of fisheries and game ever held in this country.

Commissioner McDonald announced his intention to call a meeting about the time of the meeting of the American Fisheries Society, and thought that every fish and game club in the country should belong to the above society.

Mr. Chalker spoke of the importance of rearing shad fry in ponds; these ponds to be made by enclosing coves by the river

banks. He had tried this in a small way last year, and reared 50,000 fry, and this fall had seen a quantity of young shad where he planted them. He placed a number in the Housatonic River, near Milford canal.

Mr. McDonald approved this plan. It was a sure and effective way, with less loss of fish, as a rule.

At this point Mr. Lathrop called attention to the prolonged discussion, and suggested that other important matters to be considered at this meeting be brought forward.

Mr. Brackett then reviewed the circumstances in relation to the Gilbert trout bill, its introduction into the Legislature, its passage, and its final veto by Governor Russell. He thought the veto was generally sustained, as he had not met a fisherman who did not heartily approve of it. He also summarized the points presented for and against the bill.

Dr. Hudson said he had not changed his mind since last year, and could see no good reason why a person should not be permitted to sell the trout he reared artificially, just as one could raise and sell chickens. He thought they could in Connecticut, but people did not do so there; if they did, they would no doubt be arrested for so doing. He had no desire to eat a liver-fed trout.

Mr. Lathrop thought there were two sides to this question, and urged Judge Asa French, who was counsel for Mr. Gilbert when endeavoring to have the bill passed by the Legislature, to give his opinion.

He did so at length, saying that he was not now acting as counsel for Mr. Gilbert, and what he had to say was his individual opinion.

The trout question was then dropped, at the suggestion of the chairman, and the important question of lobsters taken up. There was a consensus of opinion on this subject, which was the desirability of a uniform law throughout New England.

Mr. Brackett recommended a uniform length of ten and one-half inches, and strongly urged a law which would regulate the distance of the slats apart in the traps (he recommended two inches of space), thus enabling lobsters below a certain size to escape; this, he thought, would remove temptation from those disposed to violate the law, and save the lobstermen much time and labor in sorting them. He also advised a law forbidding the taking of all egg-bearing lobsters.

Dr. Gould presented the views of many fishermen he had interviewed; some favored a specified length, others wanted prohibition on egg-bearing lobsters, and some looked upon the present law as a hardship to them. The Maine law limits the length to ten and

one-half inches, except for two months in each year, when it is nine inches, — a concession to the canners, which will probably be abolished. He favored a uniform law throughout New England.

Mr. Chalker stated that the lobsters of Long Island Sound were much smaller than those of other waters, and he was not certain that the distance named as space between the slats would give entire satisfaction. Mr. Young suggested that these lobsters might be the same as are found in Vineyard Sound, and called ledge lobsters, — a variety not found on the coast of Massachusetts.

It was suggested by one of the commissioners that a space of two inches might permit the bait in the traps to be speedily consumed.

Dr. Gould said that some of the fishermen of Maine tied their bait in a net and hung it in the middle of the trap. He thought it a good plan.

The size of the lobster at various ages was discussed, and Commissioner McDonald stated that it was at least seven inches long when five years old.

Mr. Hodge stated that New Hampshire had but about eighteen miles of sea-coast, but he was alive to the importance of a uniform law, and co-operation with the other States. There are some slight differences between the laws of New Hampshire and Massachusetts, but they could undoubtedly be made identical, and he favored a uniform law.

Mr. Southwick said the legal length was ten inches in Rhode Island; he thought protection should be given to all egg-bearing lobsters.

After a full discussion of the lobster question, Mr. Lathrop offered the following resolution: —

Resolved, That it is the opinion of this meeting of commissioners that such legislation as shall protect the egg-bearing lobsters at all seasons of the year, and shall forbid the taking of all lobsters under ten and one-half inches in length, should be passed by all the sea-coast New England States.

This resolution was unanimously adopted. It was then suggested that Commissioner Lathrop draft a suitable bill, which should be transmitted to each New England commission, and such bill be presented to their respective legislatures, and thus secure a uniform law on lobsters throughout New England.

A general discussion then followed on the Gilbert trout bill. Mr. Hodge strongly opposed any such measure, and thought such a law would encourage the illegal killing of trout in New Hampshire, to be shipped into Massachusetts. He should regret to see such a law on the Massachusetts statute book.

A large majority of the commissioners were strongly opposed to the Gilbert bill, and all appeared to agree in regard to liver-fed trout as food. They would not eat them.

The subject of uniform fish and game laws for New England was only briefly discussed, as there was a unanimity of opinion expressed that, in some cases, the climatic conditions varied to such an extent as to make it impracticable.

The chairman referred to the meeting to-day as being an adjourned meeting from last year. What should they do? Adjourn permanently, or not?

Mr. Hodge expressed his pleasure at meeting his brother commissioners, and hoped the meeting would continue, as there is pleasure and profit to be derived from such meetings.

Dr. Hudson agreed with the last speaker, and, on motion, it was unaimously *Voted*, That this meeting be adjourned, subject to the call of the chairman, Commissioner E. A. Brackett.

[C.]

THE SHORE FISHERIES.

Before the Committee on Merchant Marine and Fisheries of the House of Representatives of the Fifty-Second Congress, March 2, 1892.

In conformity to a Resolution of the Legislature of Massachusetts and the action of her Executive thereupon, this brief statement of points and authorities is respectfully submitted, to show that Congress has, under the Constitution, no power to enact the legislation proposed in House Bill No. 5030, referred to this committee, giving to any citizen of the United States the right at all times to take menhaden and mackerel with purse seines along the sea-coasts and shores of the United States, and in the bays, harbors and estuaries thereof, notwithstanding any State law, custom or usage.

The subject is of great importance to the people of Massachusetts, who found it necessary to protect the fisheries of Buzzard's Bay against the encroachment of foreigners and fishermen from other States, by chapter 192 of the Acts of the Legislature of the year 1886. This act prohibits fishing with any drag, set or gill net, or purse or sweep seine in Buzzard's Bay. It was sustained by the Supreme Court of Massachusetts, in Commonwealth *v.* Manchester, 152 Mass. 230, and this decision was affirmed by the Supreme Court of the United States, in Manchester *v.* Massachusetts, 139 U. S. 240.

This case decides (1) that the Massachusetts statute is valid; (2) that it may be enforced against a vessel having a United States fishing license; (3) that, within the territorial limits of States as recognized by the law of nations, being a marine league from the shore, treating the headland line of bays whose headlands are not more than two marine leagues apart as part of the shore line, a State may define its boundaries on the sea, and the boundaries of its counties; and that under this power Massachusetts may include and has lawfully included the whole of Buzzard's Bay within the limits of its counties; (4) that this exercise of jurisdiction does not conflict with the admiralty and maritime jurisdiction of the courts of the United States; and (5) that there are no existing treaties or acts of Congress

touching the menhaden fisheries in Buzzard's Bay. The question of the power of Congress to control the shore fisheries, not being involved, is not discussed.

I.

1. By the law of nations, and by the common law of England, the waters and beds of the sea contiguous to the shore belong to the sovereign, for the benefit of its subjects. This is a fundamental propcsition, on which the authorities are so uniform and familiar that they need not be cited.

2. It was settled many years ago that these rights in the tidal waters and the beds thereof, within the limit of jurisdiction, have vested, under the cession of our territory by Great Britain at the close of the revolution, in the States severally, and not in the United States; subject, of course, to the power of Congress to regulate commerce and navigation. New Orleans *v.* United States, 10 Pet. 662; Pollard *v.* Hagan, 3 How. 212; Mumford *v.* Wardwell, 6 Wall. 423, 436; Webber *v.* Harbor Commissioners, 18 Wall. 57, 65; Barney*v.* Keokuk, 94 U. S. 324; Dunham *v.* Lamphere, 3 Gray (Mass.), 268; Commonwealth *v.* Roxbury, 9 Gray, 451, 481, 483.

3. It is settled also that the States own the fish within these waters, so far as they can be the subject of property rights. Martin *v.* Waddell, 16 Pet. 367, 410; Smith *v.* Maryland, 18 How. 71; McCready *v.* Virginia, 94 U. S. 391; See also, Vattel, Book 1, sections 234, 235, 246, 287; Wheaton Int. Law, part II. c. 4.

4. And that the ownerships and control of these waters, beds and fisheries by the States, are not inconsistent or in conflict with the power of Congress over commerce and navigation. Wilson *v.* Blackbird Creek Marsh Co., 2 Pet. 245; Smith *v.* Maryland, 18 How. 71, 74; Manchester *v.* Massachusetts, *ubi supra*, and cases cited.

Nor with the admiralty and maritime jurisdiction of the United States. U. S. *v.* Bevans, 3 Wheat. 336; Smith *v.* Maryland, *ubi supra*.

II.

The Constitution contains no express grant of power to the United States over the shore fisheries. If it has any such power as this bill seeks to exercise, it must be derived by implication, either from the commerce clause, or from the right to protect the citizens of the United States in the privileges and immunities of citizens in the several States.

1. It is not claimed, even in this period of liberal construction, that any further powers are implied in the Constitution of the

United States, beyond those which are reasonably necessary to sovereignty, or to the exercise of the powers expressly conferred. And it will not be claimed that the power to control the shore fisheries is necessary to the sovereignty of the United States, or to the exercise of any of its express powers.

2. It has never been assumed or determined, either by Congress or by any Federal court, that the commerce clause confers upon Congress the control of the shore fisheries. The history of the subject in the courts, and the whole course of decisions above cited, indicate the contrary. And it is now substantially held that the commerce clause confers no such power. McCready *v.* Virginia, *ubi supra;* Manchester *v.* Massachusetts, *ubi supra.*

The existence or exercise of such a power is necessarily inconsistent with the property rights of the States in the tidal waters and beds thereof and the fish therein, as determined by the Supreme Court of the United States in the cases above cited.

It is important to remember also that the decision of *Manchester* v. *Massachusetts* was made long after the Supreme Court of the United States had declared, in the *State Freight Tax* case, 15 Wall. 232, 279, and the line of cases which follows it, that the commerce clause of the constitution, *ex proprio vigore*, excludes any regulation of the subject by the States; and that any such State regulation is invalid upon a subject over which Congress has exclusive control, as it has over commerce, whether Congress has or has not acted thereon. The decision in *Manchester* v. *Massachusetts*, therefore, necessarily assumes and involves the determination that the commerce clause gives Congress no power over the shore fisheries. If Congress had such power, the court, in conformity to its established doctrine of the exclusiveness of the power of Congress, must have held the Massachusetts law invalid.

3. It was long ago held, by the highest and most respectable Federal authority save only the Supreme Court of the United States, that the right to share in the use and enjoyment of tidal waters, their beds and fisheries, within the jurisdictional limit, is not a "privilege or immunity" to which the citizens of the United States are entitled in all the States, but a property right, from the enjoyment of which the States may lawfully forbid all others save their own citizens. Corfield *v.* Coryell, 4 Wash. C. C. 380, by Mr. Justice Washington; Bennett *v.* Boggs, Bald. C. C. 60.

These decisions have often been referred to with approval in the cases above cited, and others, and their doctrine is affirmed in McCready *v.* Virginia, *ubi supra.*

In this case (94 U. S., at p. 395), the court says in so many words, by Mr. Chief Justice Waite, delivering the unanimous

opinion, after declaring the title of the States to the tide waters, their beds, and the fish in them "subject to the paramount right of navigation, the regulation of which in respect to foreign and interstate commerce, has been granted to the United States: *There has been, however, no such grant of power over the fisheries. These remain under the exclusive control of the State.* It has, consequently, the right in its discretion to appropriate its tide waters and their beds to be used by its people as a common for taking and cultivating fish, so far as it may be done without obstructing navigation. Such an appropriation is, in fact, nothing more than a regulation of the use by the people of their common property. The right which the people of the State thus acquire comes not from their citizenship alone, but from their citizenship and property combined. It is in fact a property right, not a mere privilege or immunity of citizenship."

III.

1. There are two considerations, which, even in the absence of all judicial authority, would be almost conclusive against the existence of such a power in the Federal government.

First. Although the fisheries were a leading and important industry from the earliest settlement of the country, and had been such for more than a century and a half at the time of the adoption of the Constitution, and although the framers of the Constitution must be presumed to have known that the shore fisheries belonged to the States as a proprietary right, which could not be taken away or interfered with by implication or by anything short of express grant, that instrument is silent on the subject. So vital a matter cannot have been omitted by inadvertence. The inference is strong that the framers of the Constitution did not intend to confer on Congress, and did not understand that they were conferring, the control of the shore fisheries.

There were, it is true, references to the fisheries in the debates on the Constitution, from which an argument might possibly be drawn that they were there regarded as a branch of commerce; so, indeed, are the ocean and foreign fisheries. But these references are all consistent with the theory of the exclusive rights of the States in the shore fisheries, and indicate no purpose to interfere with them, and no understanding that they were interfered with by the Constitution as adopted. While it is true that commerce may arise out of the fisheries, it is not true that the fisheries, especially the shore fisheries, are necessarily a part of commerce. In the light of this distinction, any argument from the debates on the Constitution disappears. Madison Papers, Debates on Constitution, volume 5, pp. 489, 526.

Second. At this stage of our history it is of the greatest force against the claim of such power, that it has never been exercised for more than a century, notwithstanding the fisheries have always remained a leading and important industry, and have been before the attention of Congress many times for various purposes; throughout which period the States have constantly asserted and exercised control over the shore fisheries.

2. The claim that the United States has undertaken, in the treaties with Great Britain of 1783, 1818, 1854 or 1871, to exercise control over the shore fisheries, is untenable. In these treaties nothing more was done or attempted than to confer on British subjects such rights as belonged to the citizens of the United States in common. There was no attempt to interfere with the exclusive or property rights of the States.

3. Examination of the legislation of Congress, from the adoption of the Constitution, discloses these acts touching the fisheries: —

1 U. S. St. at Large, 27. (1st Cong.) Drawback on exportation of fish.

Ibid., 60, 61. This relates only to vessels engaged in bank or whale fisheries.

Ibid. (2d Cong.) 229–232. This also relates only to vessels engaged in the bank and cod fisheries.

Ibid., 260. This also is of the same character, and imposes a duty on pickled fish.

Ibid., 305–318. This is an enrolling and licensing act, regulating vessels employed in the coasting trade, and bank and cod fisheries.

Ibid. (5th Cong.) 533, 534. Allowance to ships in the bank and cod fisheries.

Ibid., 692. Bounty on pickled fish.

2 U. S. St. at Large, 36, 37 (6th Cong.), extends for ten years the above act of the 2d Congress.

Ibid., 137, 138 (7th Cong.), relates only to persons engaged in fisheries in the district of Edenton.

Ibid., 552 (11th Cong.), provides that allowances given by certain collectors to fishing vessels shall be credited at the treasury.

3 U. S. St. at Large, 2, 3 (13th Cong.), provides for the government of persons carrying on the bank and other cod fisheries.

Ibid., 49–52, provides for bounties on pickled fish exported, and for allowances to certain vessels employed in bank and other cod fisheries.

Ibid., 254 (14th Cong.), continues in force the former Act of July 29, 1813.

Ibid., 417 (15th Cong.), provides for a bounty to fishing vessels in certain cases.

Ibid., 520, is an act in addition to and alteration of the Act of July 29, 1813.

4 U. S. St. at Large (18th Cong.), provides for a bounty to vessels in the cod fisheries in certain cases.

Ibid., 312 (20th Cong.), provides for licensing vessels to be employed in mackerel fisheries.

Ibid., 492 (21st Cong.), is an act concerning vessels employed in the whale fisheries.

9 U. S. St. at Large, 43 (29th Cong.), contains a provision for a drawback in lieu of bounty on pickled fish.

12 U. S. St. at Large, 803 (37th Cong.), contains a provision regulating fishing in waters within the District of Columbia.

13 U. S. St. at Large, 142 (38th Cong.), contains a provision as to payment of fishing bounties provided for in Act of July 29, 1813.

14 U. S. St. at Large, 417 (39th Cong.), gives the assistant collector of the Port of Camden, N. J., power to regulate and license all vessels engaged in the coasting trade and fisheries.

16 U. S. St. at Large, 593, 594 (41st Cong.), is a joint resolution establishing a commission for the protection and preservation of the food fisheries of the coasts of the United States.

18 U. S. St. at Large (43d Cong.), 137, 207 and Ibid., 374, provides for appropriations to continue inquiries into the decrease of food fisheries of the coast and lakes, and for the introduction of shad and other fish into the waters of the United States.

20 U. S. St. at Large, 240 (45th Cong.), provides for an appropriation to pay the Halifax award.

21 U. S. St. at Large, 71 (46th Cong.), is an act for the protection of fisheries in the Potomac River, in the District of Columbia.

Ibid., 150, 264 and 440, provide for appropriations for the propagation of food fish.

Ibid., 151, provides for a Fish Hatching Steamer, and that the vessels of the United States Fish Commission be placed on the same footing with the navy department as those of the United States Coast and Geodetic Survey.

22 U. S. St. at Large (47th Cong.), 10, 331, 332, 627, 628, provide for appropriations for a steamer for the work of the Fish Commission, for the propagation of food fish, and for a fishing battery.

23 U. S. St. at Large, 205, 239, 450, 494, provide for appropriations for the work of the Fish Commission.

Ibid., 275, is an act for a lease of lands in Michigan to the Fish Commission of Michigan.

24 U. S. St. at Large, 236, 262, 289, 523 (49th Cong.), provide appropriations for the work of the Fish Commission.

Ibid., 434 (49th Cong., Feb. 1887). This forbids for five years the *importation* or landing of mackerel caught between March 1 and June 1. So far as it forbids *importation*, it clearly refers only to foreign or ocean fishery; and the prohibition against "landing" must be taken as intended to make the other prohibition effective. There is also an express exception in favor of shore fisheries.

Ibid., 475. Retaliation act of March, 1887, closing our ports to Canadian fishermen in certain cases.

25 U. S. St. at Large, 1 (50th Cong.), provides for the salary of the Fish Commissioner.

Ibid., 27, 50, 158, 160, 521, 522, 569, 953, 954, 1009, make appropriations for the work of the Fish Commission.

Ibid., 425, provides for the building of fish-ways, when the United States in making improvements in rivers has made obstructions therein.

26 U. S. St. at Large (51st Cong.), 35, 64, 383, 384, 506, 507, 964, 965, provide for appropriations for the work of the Fish Commission.

I think it can be affirmed that in no one of these acts is there anything inconsistent with the State ownership and control of the shore fisheries, or manifesting any understanding of the United States that it had such right or control, or any purpose to exercise it. Nearly all of them are plainly applicable only to the ocean and foreign fisheries, between which and the shore fisheries within the jurisdictional line of the States there is a well-defined distinction. It is clear that the treaties never undertook to give British subjects any rights save those which belong to all citizens of the United States in common; and the statutes relate only to duties, bounties and drawbacks on the importation or exportation of fish, the regulation of vessels engaged in the bank or cod and whale fisheries, and the establishment of a fish commission to promote the propagation of fish; which last is obviously for the common benefit of the shore and ocean fisheries and of all the people of all the States, or at least of all the sea-board States; and involves no exercise or even assertion of any right or control over the shore fisheries of the States to the prejudice of State ownership and control.

4. The committee is doubtless familiar with the report of the committee on judiciary (No. 2385) by Mr. Tucker, in the 49th Cong., 1st. sess., that "the navigable waters within each State

belong to it, subject to the paramount right of navigation, for the benefit of its own people, and it has the right to secure the exclusive right of fishing in them to its own citizens, by virtue of their common property in said waters, and that citizens of other States have no constitutional right, nor can Congress confer any, to participate in them."

This apparently disposed of the subject to the satisfaction, at least, of that Congress.

5. The whole argument may be summarized in these propositions; of which the first two are conclusively settled by authority, and the third practically so.

First. The title to the waters and bed of the sea, and to the fisheries therein, to the extent of the jurisdictional limit of a marine league and not merely within the body of counties, is in the States, subject to rights of navigation, and not in the United States.

Second. This is a proprietary right; and the control and regulation of the waters and fisheries which go with it arise out of proprietorship, and not out of sovereignty.

Third. There is nothing expressed or implied in the Constitution of the United States sufficient to divest the States of this proprietary interest or right of control and vest it in the United States.

For the reasons thus briefly and imperfectly suggested, I respectfully submit that the shore fisheries, within the three-mile limit, are in the exclusive control of the States, and that the legislation proposed by House Bill No. 5030 is beyond the power of Congress.

A. E. Pillsbury, *Attorney-General,*
for the Commonwealth of Massachusetts.

[D.]

REPORTS OF DEPUTIES.

Commissioners on Inland Fisheries and Game.

Gentlemen: — I respectfully submit a report of the fish and game laws which I am detailed to enforce.

I have inspected the coast, from New Hampshire to the Rhode Island line, in a steamer purchased for that purpose. There have been no menhaden on the coast except a few in Buzzard's Bay, and no violation of the seining law, to my knowledge. My attention has been called by the fishermen to the destruction of the lobster business, and I have devoted most of my time to that branch. The ten and one-half inch law was first proposed by the fishermen themselves, for their own protection, and in some places has been detrimental instead of beneficial to persons who respect the law. Some people will not comply with the law under any circumstances, and as long as they can catch the little ones will dispose of them in some manner, regardless of the consequences. Many of these violators have been arrested, and convicted, but as a rule the courts let them off easy, and they continue in the same illegal business, and make up the amount of their fines in a few days. Nearly all the fishermen believe that the law is a good one, if everybody can be compelled to abide by it; but it would take several men in each town to enforce said law to the letter. After a careful study of the business for a number of years, I am satisfied that the only thing which can be done in justice to all concerned is to oblige every lobster fisher to construct his traps in such a manner that the small ones will go out between the laths or sticks; or, in other words, place the laths or sticks two inches apart. I have found some places on the coast where the laths on the traps are two and one-quarter inches apart, and in said places they do not catch many small lobsters.

Some of the fishermen who are dissatisfied with the working of the present law propose a close season; but I do not think a close season would work well in this State, for the reason that the time when the people of the north shore would have fishing prohibited is the only time in the year that lobsters can be caught on the

south side of Cape Cod. During the months of July and August, when lobsters along the northern New England coast have just shed their shells and are thin shelled and soft, there is a school of lobsters on the Nantucket shoals and around Monomoy which are the largest and best that I have seen at any time of the year in any part of the State. To have a close season at the proper time, to protect lobsters in Massachusetts Bay, would deprive these other fishermen of a livelihood and deprive the market of the best lobsters. A law regulating the lobster trap would accomplish the work which the ten and one-half inch law was enacted to do, and would protect the fishermen as well.

I have seized and returned alive to the waters, in places where the catch has been depleted, seven thousand lobsters, together with ten million eggs.

Chapter 28, Acts of 1881, requires the owner of every weir, net or lobster trap to make returns to the Commissioners on Inland Fisheries and Game on or before the twentieth day of October in each year. I have sent blanks to the owners aforesaid, and find the law generally complied with.

I have made three arrests for violation of the game laws, and two of the parties were found guilty and fined, while in the other case the defendant was discharged on account of an error in the passage of the law. The defendant was complained of, under section 3 of chapter 276 of the Acts of 1886, for having quail in his possession during the close season. The law reads as follows: —

"Section 1. Whoever takes or kills a pinnated grouse at any time, or a woodcock, between the first day of January and the first day of August, or a ruffed grouse, commonly called partridge, between the first day of January and the first day of October, or a quail between the first day of January and the fifteenth day of October, or a wood or summer duck, black duck or teal, or any of the so-called duck species, between the fifteenth day of April and the first day of September, shall be punished by a fine of twenty dollars for every bird so taken or killed.

"Sect. 2. Whoever takes or kills a plover, snipe, sandpiper, rail or any of the so-called shore, marsh or beach birds, between the first day of May and the fifteenth day of July, or a wild or passenger pigeon or a gull or a tern between the first day of May and the first day of October, shall be punished by a fine of ten dollars for every bird so taken or killed.

"Sect. 3. Whoever buys, sells or has in his possession any of the birds or animals named in this act, and protected thereby, during the time within which the taking or killing thereof is pro-

hibited, whenever or wherever the aforesaid birds may have been taken or killed, shall be punished by a fine of twenty dollars for the birds protected by section 1, and ten dollars for the birds protected by sections 2 and 4; *provided*, *however*, that any person, firm or corporation dealing in game may buy, sell or have in possession quail from the fifteenth day of October to the first day of May, and pinnated grouse, wild pigeons and any of the so-called shore, marsh or beach birds, or any of the so-called duck species, at any season, if not taken or killed in this Commonwealth contrary to the provisions of this act."

In 1891 another law was passed, which, instead of being an amendment to section 1 of chapter 276 of the Acts of 1886, is a separate law by itself, and reads as follows: —

"Section 1. Whoever takes or kills a pinnated grouse at any time, or a woodcock or a ruffed grouse, commonly called a partridge, between the first day of January and the fifteenth day of September, or a quail between the first day of January and the fifteenth day of October, or a wood or summer duck, or teal, or any of the so-called duck species, between the fifteenth day of April and the first day of September, shall be punished by a fine of twenty dollars for every bird so taken or killed.

"Sect. 2. Section 1 of chapter 276 of the Acts of 1886, as amended by chapter 292 of the Acts of 1888 and by chapter 249 of the Acts of 1890, is hereby repealed."

The court ruled that section 3 depended upon section 1, and that, when chapter 142 of the Acts of 1891 repealed section 1, it also annulled section 3; and that, according to the law as it now stands, the possession of a game bird is not an offence at any season of the year. I would recommend that the law be amended so as to make possession of game birds an offence during the time within which the taking or killing of the birds aforesaid is prohibited, and also a uniform season for taking or killing said birds.

Total number of arrests,	18
Violation of lobster law,	13
Violation of game law,	3
Assault,	2
Convicted and fined,	11
Cases pending,	6
Discharged,	1
Amount of fines imposed,	$1,080

Respectfully submitted,

Wm. H. Proctor,

District Police Officer.

MARION, Nov. 15, 1892.

To the Commissioners on Inland Fisheries and Game.

GENTLEMEN: —In submitting my report for the year, I would most respectfully call your attention to the great necessity of further legislation for the better protection of our State fisheries. In the performance of my duties as State deputy commissioner, I have watched the workings of the present law, and, after giving it considerable thought, I am fully convinced that the law giving selectmen of towns the right to issue permits for the taking of fish with pounds is wrong, and should be repealed. This is a question which is causing considerable agitation among a large majority of the people in this vicinity; and, although almost all towns bordering upon Buzzard's Bay have refused to instruct their selectmen to issue permits, there is a feeling of uncertainty lest the selectmen may, under the influence of town politics, issue permits, thereby breaking the link that is to-day holding them so solidly together for the protection and increase of the fisheries. What is needed is new legislation, either prohibiting the setting of pounds in Buzzard's Bay or giving the issuing of permits to others than the selectmen, thereby placing it beyond the control of town politics.

In relation to the lobster fisheries, I find that, while the marketmen as a rule have no desire to handle anything but what the law allows, there is a tendency on the part of the fishermen — and in some instances also the marketmen, who being located near some summer resort and having nothing but their own personal gain at heart, look only at the present, rather than the future — to persist in catching and offering for sale short lobsters. Among this class of fishermen and marketmen I have made several seizures during the year, and in taking the several parties into court I have convicted every case, with fines amounting to nearly three hundred dollars. If there could be a law, as recommended by Mr. Proctor in his report of last year, regulating the distance between the laths or sticks of lobster pots, so as to let the small lobsters escape, I think it would meet the approval of every honest fisherman, check the illegal practice of the dishonest ones, and add very materially to the increase of the lobster catch.

All complaints of the bird laws have been promptly investigated; but, from the fact of there being one month's difference between the open season on partridge and quail, it is impossible to convict unless the parties are caught in the act. With a uniform season, the hunter would have no excuse to be in the woods with

his gun and dog out of season; and, for the protection of the birds and the enforcement of the laws, better results could be attained than at present.

Respectfully submitted,

JOHN W. DELANO,
Deputy Commissioner.

To the Commissioners on Inland Fisheries and Game.

GENTLEMEN: — I submit the following report as the result of my efforts to enforce the fish and game laws of the State during the year. There has been a decided improvement in the observance of the laws in relation to game. Very few complaints have been sent me, as compared with previous seasons; only two arrests have been made, and those were for offering game for sale in the close season. The parties were convicted and paid their fines. With the exception of quail and woodcock, the markets have shown a decrease. Partridges have been scarce, and prices higher than in former seasons. This, in some measure, is due to the law in New Hampshire, prohibiting the transportation of partridges out of the State. The open season for shooting in New Hampshire is September 1, while in Massachusetts it is the 15th. The result of this difference is two weeks' shooting in Massachusetts by parties from New Hampshire, all along the State line. Complaints of this nature have been sent me. A distance of seventy miles is quite a space for one person to properly guard, and it is extremely difficult for an officer to locate the State line when he attempts to prosecute an offender. The open season for the shooting of game birds in Massachusetts and New Hampshire should be on the same date. Early in September, half-grown gray squirrels and rabbits were offered for sale by hunters at the low price of five cents each. September 1 is too early to shoot such game; and, with an open season of six months, it is useless to expect much increase. To be allowed to kill gray squirrels and rabbits in January and February is certainly not in the interest of those who hunt them. Three months of good shooting is better for the hunter than six months of poor shooting.

The law passed at the last Legislature in relation to the length of trout that may be offered for sale has been a great help in protecting the small trout, and trout of illegal length have not been seen in the markets. It would be an improvement if the law were made applicable to those who catch as well as to those who offer for sale.

The traffic in small and mutilated lobsters is now confined chiefly to those who catch them. No respectable dealer intends to have them upon his premises, and some of the express companies have refused to transport them. At Marblehead and Nahant nearly all the catchers have shown a disposition to continue in this traffic, especially during the beach season; and thousands of small lobsters have been mutilated, and the tails and claws smuggled into the beach houses and lunch saloons during the night time. I have caused six of the parties engaged in the business to be brought before the courts. All were adjudged to be guilty, and the amount of fines imposed in the several cases was $930. Four of the cases are now pending in the superior court.

The menhaden did not come into the Merrimac River this season, and, in consequence, the supply of bait taken was frequently composed of alewives and young shad, and what the fishermen term blue-backs. Six weeks' fishing nearly exhausted the supply of that mixture, and many vessels were obliged to go to other places for bait.

Salmon were taken with single hook and line in the Merrimac this season. P. McCarthy of Lawrence caught one which weighed ten pounds; five were caught above the State line, near Nashua; and it is reported that four more were illegally taken at Reed's Ferry and Suncook River (a tributary of the Merrimac).

The construction of a dam across the Merrimac (three miles above Concord) has caused an obstruction to the passage of fish, such as will require the building of a fishway.

Respectfully yours,

B. P. Chadwick,

Deputy Commissioner.

Bradford, Nov. 14, 1892.

[E.]

PROPOSED AMENDMENT OF THE GAME LAW.

Section one of chapter one hundred and forty-two of the Acts of the year eighteen hundred and ninety-one is hereby amended by inserting after the words "between the fifteenth day of April and the first day of September" the following words, viz.: "And whoever buys, sells or has in his possession any of the birds or animals named in this act and protected thereby, during the time within which the taking or killing thereof is prohibited, whenever or wherever the aforesaid birds or animals may have been taken or killed;" and by inserting at the end of said section the words "or had in possession;" so that said section shall read as follows: —

Section 1. Whoever takes or kills a pinnated grouse at any time, or a woodcock, or a ruffed grouse, commonly called a partridge, between the first day of January and the fifteenth day of September, or a quail between the first day of January and the fifteenth day of October, or a wood or summer duck, black duck or teal, or any of the so-called duck species, between the fifteenth day of April and the first day of September; and whoever buys, sells or has in his possession any of the birds or animals named in this act and protected thereby, during the time within which the taking or killing thereof is prohibited, whenever or wherever the aforesaid birds or animals may have been taken or killed, shall be punished by a fine of twenty dollars for every bird so taken or killed, or had in possession.

[F.]

LEGISLATION.

Acts of 1892.

[Chapter 102.]

An Act relating to the pursuing of wild fowl.

Be it enacted, etc., as follows:

Section 1. So much of section six of chapter two hundred and seventy-six of the acts of the year eighteen hundred and eighty-six, and acts amendatory thereof, as imposes a penalty for pursuing any wild fowl with or by aid of a sail boat, is hereby repealed.

Sect. 2. Whoever pursues any wild fowl with or by aid of a boat propelled by steam or by naphtha, or by aid of a boat or vessel propelled by any mechanical means other than sails, oars or paddles, shall be punished by a fine of twenty dollars. [*Approved March 25, 1892.*

[Chapter 188.]

An Act relating to the taking of scallops in the waters of the town of Marion.

Be it enacted, etc., as follows:

Section 1. The selectmen of the town of Marion may grant permits, in writing, to take scallops from the waters within the limits of said town, in such quantities, at such time or times within one year, by such methods and under such regulations, as may be expressed in their permit, and they may charge and receive therefor in behalf of and for the use of said town such sums as they may deem proper. But every inhabitant of said town may without such permit take scallops from the waters of the town for the use of his family, from the first day of October to the first day of April, not exceeding in any week three bushels, including the shells; and any inhabitant of the Commonwealth may take from the waters of said town scallops for the use of his family, from the first day of October to the first day of April, not exceeding in any week three bushels, including the shells, having first obtained a permit so to do from the selectmen of said town.

Sect. 2. No person shall take any scallops from the waters of said town without a written permit from the selectmen thereof, except as provided in the preceding section. Whosoever violates the provisions of this act shall be punished by a fine of not less than twenty or more than one hundred dollars, or imprisoned in the house of correction not less than thirty days or more than six months, or by both such fine and imprisonment. One half of the fine shall be paid to the complainant and the other half to the county within which the offence was committed.

Sect. 3. Nothing in this act shall be construed to affect any acts relating to the oyster fishery, or to impair the private rights of any person, or in any way to limit or affect the provisions of law for the protection of fisheries other than the scallop fishery, or to permit the taking of scallops upon any oyster grounds or beds other than public grounds or beds.

Sect. 4. All the privileges which the citizens of Rochester and Mattapoisett had before this act takes effect, to take scale and shellfish from the shores or flats within the town of Marion, shall remain the same as if this act had not passed.

Sect. 5. District courts and trial justices shall have concurrent jurisdiction with the superior court of all offences under this act.

Sect. 6. Section three of chapter two hundred and twenty of the acts of the year eighteen hundred and eighty-five and all acts and parts of acts inconsistent herewith are hereby repealed. [*Approved April 22, 1892.*

[Chapter 186.]

An Act to regulate the taking of eels and white perch in the waters of the town of Mattapoisett.

Be it enacted, etc., as follows:

Section 1. The selectmen of the town of Mattapoisett may grant permits in writing to take eels and white perch from the waters within the limits of Barlow's pond and Mattapoisett river, in the town of Mattapoisett, in such quantities, at such time or times within one year from the granting of such permit, and by such methods and under such regulations as may be expressed in their permit. But every inhabitant of either of the towns of Rochester, Marion and Mattapoisett may without such permit take eels and white perch from the waters of said Barlow's pond and Mattapoisett river.

Sect. 2. No person shall take any eels or white perch from the waters of Barlow's pond or Mattapoisett river without a written permit from the selectmen of Mattapoisett, except as provided in

the preceding section. Whoever violates the provisions of this act shall be punished by a fine of not less than five dollars nor more than ten dollars for each offence. [*Approved April 20, 1892.*

[Chapter 196.]

An Act relative to the fisheries of the town of mashpee.

Be it enacted, etc., as follows:

Section one of chapter two hundred and sixty-four of the acts of the year eighteen hundred and eighty-four is hereby amended by striking out the first four lines of said section, and the words "line drawn from Gooseberry island to Mashpee neck", in the fifth line, and inserting in place thereof the following words: — No person shall fish for or take or destroy in the waters of the town of Mashpee, leased by said town to any person, any fish, shellfish or eels, except as permitted by such lease; and no person not an inhabitant of the town of Mashpee shall fish for, take or destroy in the waters within said town, — also by inserting after the word "however", in the fourteenth line of said section, the words: — that the foregoing provisions shall not apply to Hamlin's pond and its outlet, nor to the trout fishery in Popponessett bay, south of a line drawn from Gooseberry island to Mashpee neck; and *provided, further*, — so as to read as follows: — *Section 1.* No person shall fish for or take or destroy in the waters of the town of Mashpee, leased by said town to any person, any fish, shellfish or eels, except as permitted by such lease; and no person not an inhabitant of the town of Mashpee shall fish for, take or destroy in the waters within said town any fish, shellfish or eels, without a written permit or lease from the selectmen of said town, stating the time, place, manner and number in which the same may be taken; nor shall any inhabitant of said town at any one time take more than three bushels of shellfish for bait, or take any fish, shellfish or eels for the purpose of selling the same, without a written permit from said selectmen, who may grant the same for such sum, to be paid to the use of said town, as they shall deem proper: *provided, however*, that the foregoing provisions shall not apply to Hamlin's pond and its outlet, nor to the trout fishery in Popponessett bay, south of a line drawn from Gooseberry island to Mashpee neck; and *provided, further*, that no seining shall be allowed in any of the waters of said town; but the inhabitants of said town may take such fish, shellfish and eels for family use without such permit, except from such fisheries as are lawfully leased by said town to others. [*Approved April 22, 1892.*

[Chapter 252.]

AN ACT TO PROHIBIT THE SALE OF TROUT LESS THAN SIX INCHES IN LENGTH.

Be it enacted, etc., as follows:

SECTION 1. Whoever sells or offers or exposes for sale in this Commonwealth, at any season of the year, any trout less than six inches in length shall forfeit ten dollars for each trout so sold or offered or exposed for sale.

SECT. 2. Nothing herein contained shall be so construed as to in any way repeal section twenty-six of chapter ninety-one of the Public Statutes. [*Approved May 6, 1892.*

[Chapter 403.]

AN ACT RELATIVE TO THE TAKING OF LOBSTERS.

Be it enacted, etc., as follows:

Any person living without this Commonwealth who shall take any lobsters within the harbors, rivers or waters of the Commonwealth, and carry them or cause them to be carried thence in vessels, shall be fined ten dollars for every offence and shall forfeit all the lobsters so taken. But this act shall not prevent the purchase of lobsters for transportation without the Commonwealth. [*Approved June 16, 1892.*

[G.]

LIST OF PONDS LEASED

By the Commissioners on Inland Fisheries, under Authority given by Chap. 384, Sect. 9, of the Acts of 1869.

1874.

March 2. Upper Naumkeag Pond, in Ashburnham, to inhabitants of Ashburnham, 20 years.

May 20. Unchechewalom and Massapog Ponds, to the inhabitants of Lunenburg, 20 years.

July 11. Hazard's Pond, in Russell, to N. D. Parks and others, 20 years.

1875.

May 1. Chilmark Pond, in Chilmark, to J. Nickerson and others, agents, 20 years.

July 1. Haggett's Pond, in Andover, to inhabitants of Andover, 20 years.

Aug. 1. Oyster Pond, in Edgartown, to J. H. Smith and others, 20 years.

1876.

May 20. Lower Naumkeag Pond, in Ashburnham, to inhabitants of Ashburnham, 18 years.

28. Phillipston Pond, in Phillipston, to inhabitants of Phillipston, 20 years.

1877.

Oct. 1. Fort, Great Spectacle and Little Spectacle Ponds, in Lancaster, to inhabitants of Lancaster, 20 years.

1878.

Jan. 1. Sniptuit, Long, Snow and Mary's Ponds, in Rochester, to inhabitants of Rochester, 15 years.

March 16. Asnaconcomic Pond, in Hubbardston, to Amory Jewett, Jr., 15 years.

May 1. Bear Hill Pond and Hall Pond, in Harvard, to inhabitants of Harvard, 15 years.

Oct. 1. Ell Pond, in Melrose, to J. A. Barrett and others, 15 years.

1879.

July 1. Fresh Pond, in Falmouth, to Thomas H. Lawrence, 20 years.

Oct. 1. Pomp's Pond, in Andover, to inhabitants of Andover, 15 years.

Nov. 1. Lake Quinapowitt, in Wakefield, to inhabitants of Wakefield, 14 years.

1880.

March 1. Lake Winthrop, in Holliston, to inhabitants of Holliston, 15 years.

June 1. Jordan Pond, in Shrewsbury, to inhabitants of Shrewsbury, 15 years.

1880.

July 1. Swan and Martin's Ponds, in North Reading, to inhabitants of North Reading, 15 years.

1881.

Jan. 1. Great and Job's Neck Ponds, in Edgartown, to Amos Smith and others, 15 years.

April 1. Long Pond, in Blandford, to Samuel A. Bartholomew and another, 15 years.

May 2. Nonesuch Pond, in Weston and Natick, to W. A. Bullard and others, 15 years.

1882.

March 1. Blair's Pond, in Blandford, to Curtis M. Blair and another, 15 years.

April 1. Ward Pond, *alias* Wightman Pond, in Ashburnham, to Herbert F. Rockwood and another, 15 years.

May 1. Horn Pond, in Woburn, to inhabitants of Woburn, 15 years.

June 1. Wickaboag Pond, in West Brookfield, to inhabitants of West Brookfield, 15 years.

1883.

April 6. Fresh Pond, in Tisbury, to Allen Look and others, 15 years.

23. Keyes Pond, in Westford, to M. H. A. Evans, 15 years.

May 7. Singletary Pond, in Sutton and Millbury, to towns of Sutton and Millbury, 15 years.

7. The Great Pond, in Ashfield, to town of Ashfield, 15 years.

July 1. Lake Buell, in Monterey and New Marlborough, to town of New Marlborough, 10 years.

1884.

July 15. Asneybunskeit Pond, in Paxton, to inhabitants of Paxton, 10 years.

15. Center Pond, in Dennis, to inhabitants of Becket, 10 years.

15. Buckmaster Pond, in Dedham, to Francis Soule and others, 10 years.

15. Fresh Pond, in Dennis, to inhabitants of Dennis, 10 years.

17. Farm Pond, in Cottage City, to John C. Hamblin and others, 15 years.

18. Mashpee, Great and Wakeley Ponds, in Mashpee, to inhabitants of Mashpee, 10 years.

Aug. 30. Sand Pond, in Ayer, to inhabitants of Ayer, 15 years.

Sept. 5. Great Pond, in North Andover, to inhabitants of North Andover, 15 years.

[H.]

LOBSTER RETURNS.

1892.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters Taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Wm. R. Rowe,	Annisquam,	10	198	–
Graciano Rio, Joseph Rogers, Joaquin Perry, Antonio Francis, Antonio Ferreira, Peter Sylva, Joseph Severino, Manuel Sylva, John Pinta,	Boston,	970	86,092	1,016
C. H. Verry, C. C. Foster, W. M. Hersey,	Beverly,	150	10,518	456
A. A. Nightingale, F. C Leonard,	Bournedale,	105	5,477	168
A. L. Ellis,	Barnstable,	20	350	55
W. C. Phillips, B. P. Williamson, H. P. Taylor, D. B Blackman,	Brant Rock,	275	14,593	173
O. H. Stetson, C. C. Allen, A. G. Eisener, H. Jackson, J. H. Tilton, R. W. Rotch, F. Peters, Thos. Jones, J. W. Tilton, D. P. Bosworth, Timothy Aiken,	Cuttyhunk,	387	24,448	2,084

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Geo. W. Bloomer, W. F. Hitchins, R. T. Bearse, S. Patterson, Thos. Holway, H. F. Gould, E. F. Mayo, E. Z. Ryder, W. H. Patterson, J. D. Bloomer, W. R. Bloomer, O. C. Eldredge, W. A. Bloomer, F. Bloomer, O. M. Gould, E. S. Gould,	Chatham,	754	28,058	1,756
O. Stuart, L. C. Atheron, F. Tilton, E. A. Pool, R. P. Reed, H. Luce, W. S. Mayhew, C. L. Cleveland, H. W. Mayhew,	Chilmark,	149	7,041	574
W. H. Phinney, A. B. Rogers, B. F. Hodges, Chas. Rogers, R. F. Swift, H. A. Jordan, L. S. Thurston, Chas. Boutin, Geo. Boutin, Geo. Atwell,	Chiltonville,	374	40,318	1,252
Joseph Vandura, M. S. Thomas, J. S. Rebeiro, M. P. Valine, M. E. Salvador, Wm. Deane, M. S. Almas, M. Mannix, J. Jason, Jr., R. Ainsley,	Cohasset,	1,105	96,990	2,512

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Levi Cadoza, John Smith, Geo. Antoine, J. S. Enos, Frank Salvador, Warren White,	Cohasset,	1,105	96,990	2,512
Isaac Symmes, O. C. Hunt, F. E. Wardsworth, J. H. Mark, Edmund Marsh, W. E. Peterson, J. M. Snow, G. F. Freeman, C. E. Peterson, F. E. Phillips, W. E. Freeman, E. J. Smith, J. K. Burgess,	So. Duxbury,	485	54,852	743
J. L. Gifford, W. H. Gifford,	Dartmouth,	53	907	123
Melvin Parsons, Albert Parsons, D. N. Mehlman, E. F. Parsons, Nelson Rowe, Joseph Parsons,	Gloucester,	390	51,709	2,033
A. P. Haskins, F. N. Smith, S. F. Smalley, L. E. Cottle, C. H. Ryan, J. H. Foster, Anderson Pool, M. C. Cooper, J. F. Cooper, Francis Manning, S. J. Anthony, M. H. Vincent, Wm. Vanderhoop,	Gay Head,	288	19,179	2,250
Chas. Tollman, Thos. Pezzy, Geo. Sampson,	Green Harbor,	492	32,279	613

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
W. H. Tollman, Geo. Delano, E. R. Lapham, Wilfred Keene, Chas. R. Peterson, H. P. Tollman, Lyman Sears, Chas. Pratt,	Green Harbor,	492	32,279	613
H. W. Mitchel, A. B. Mitchel, F. S. James, Daniel Southern, B. F. Pope, John Reed, W. B. Mitchel, J. C. Augustus, E. T. Pope, R. James, Jr., F. Smith, A. B. Cleverley, Andrew Galiano, M. D. McDonald, A. F. Pope, J. H. Smith,	Hull,	1,116	79,890	1,587
Rust & Grant, W. B. Atkinson & Co.,	Ipswich,	45	2,281	165
Wm. H. Sargent, A. Woodbury, G. H. Woodbury, J. J. Woodbury, Jr., Ezra Haraden, J. W. Riley, J. W. Roberts, Elias Haraden,	Lanesville,	247	18,563	765
Edward Lafreniere, M. O. Stone & Co.,	Lynn,	65	6,511	154
Wm. Harlow, J. F. Bartlett, H. A. Thomas, F. B. Holmes, G. W. Holmes, Geo. F. Bennison, Henry Dodge,	Manomet,	686	59,397	1,941

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Walton Chase, A. C. Sampson, Stephen Holmes, S. B. Briggs, Rufus Ellis, A. L. Holmes, C. H. Dixon, F. R. Peterson, W. H. Peterson, Samuel Bartlett, Thos. Jordan,	Manomet,	686	59,397	1,941
James McNeary, Edward Heath, L. O. Sargeant, John Heath, Chas. Sargent, Chandler Lewis, W. E. Heath,	Manchester,	137	6,758	238
E. A. Keene, F. B. Perkins, F. A. Frost, J. T. Adams, C. H. Smethmest, Wm. J. Dodd, R. T. Millet, S. L. Smith, J. G. Stacy, Sans Standley, J. H. Atkins, John Smithers, B. F. Stevens, Wm. H. Tult, W. B. Dennis, J. W. Florence, J. S. Stone, J. W. Coffin,	Marblehead,	708	73,758	1,307
F. H. Story, C. H. Foss, C. G. Story, W. S. Douglass, J. B. Knowlton, E. L. Story, J G. Burnham, David Worth,	Magnolia,	375	29,159	1,504

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
W. S. Richmond, F. A. Bowman, Lilburne Hiller, W. K. Perry, J. J. Nye,	Mattapoisett,	125	2,480	544
John Johnson, Chas. Wilson, Chas. Bates, G. L. Hatch, B. A. Atwood,	Nantasket,	265	25,248	409
J. F. Ramsdell, John Watkins, J. E. Nickerson, A. B. Brooks & Bros.,	Nantucket,	83	4,495	245
C. W. Taylor, G. W. Taylor, Samuel Covell, C. E. Gooe,	Nahant,	190	12,918	637
F. A. Haden,	Orleans,	25	933	48
James Deacon, G. A. Manter, H. L. Sampson, J. M. Watson, A. M. Watson, Jr., Ezra Pierce, Isaiah Walker, D. W. Nightingale, J. P. Turston, Cornelius Briggs, W. J. Nightingale, J. H. Bagnell, B. B. Manter, S. P. Burgess, A. R. Gorham, S. J. Valler, J. H. Valler, A. M. Watson,	Plymouth,	719	74,710	1,804
David Newcomb, J. C. Lenten, J. W. Savage, F. M. Bowley, W. G. Loring,	Provincetown,	221	3,660	449

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
Jabez Kendall, Amos Lufkin, C. N. Morgan, Wm. Fears, Edward Lewis & Son, Fred. Johnson,	Pigeon Cove,	280	28,806	1,073
J. B. Parsons, S. F. Norwood, S. G. Perkins, G. J. Wendell, Harvey Pool,	Rockport,	360	24,651	979
J. F. Cushman, Jesse Spooner, Wm. E. Supple, E. P. Pratt, A. E. White, James Hughes, F. Mulkerne, C. H. Pratt, John Welch, James Doherty, G. F. Edson, Daniel Ward, R. O. Hearn,	Scituate,	692	49,022	2,914
A. E. Reed, A. A. Flanders,	Squibnocket,	40	3,869	175
Oscar Gibbs,	Sagamore,	24	1,066	236
W. B. Newcomb, Edward Marsh & Co., Geo. Martin, Wallace Kehoe & Bro., Josiah Nickerson, L. D. Woodbury, J. Blarney & Co., S. Hammond & Co., H. O. Douglass, J. F. Blaney, Nathaniel Pierce, T. E. Stone, G. A. R. Horton, A. G. Watts & Co.,	Swampscott,	625	58,844	685
W. P. Foye, T. F. Hogan,	Salem,	285	17,277	374

Lobster Returns — Concluded.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters returned to the Water alive.
John Clark, H. G. Tucker, C. H. Berry,	Salem,	285	17,277	374
C. H. Collins,	No. Truro,	40	366	14
Seth Look, G. Rogers, L. A. Rogers, G. H. Luce, G. A. Rogers, J. A. Mayhew,	No. Tisbury,	151	3,795	781
Walter Nickerson, B. E. Stuart, O. C. Grinnell, J. F. Cook,	Wood's Holl,	113	4,474	994
G. W. Wyman, John Wardsworth, Treworgy Bros., W. E. Wyman, J. B. Wyman,	Winthrop,	360	37,483	1,059
G. A. Gifford, T. J. Brightman,	Westport,	80	4,341	341
Total men, 312,		14,064	1,107,764	37,230

Comparison of Returns of Lobster Fisheries.

YEAR.	No. of Men.	No. of Traps.	No. of Large Lobsters.	No. of Egg-bearing Lobsters returned to the Water alive.
Increase of 1892 over 1891,	–	–	–	–
Decrease of 1892 below 1891,	15	1,384	185,027	12,743

GILL AND SWEEP NETS.

1892.

PROPRIETOR.	TOWN.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.
Alexander Sargent,	Bay View,	-	1,000	196,550	-	-	-	-
Charles Bearse,	Barnstable,	-	-	-	-	-	-	2
J. D. Kelley,								
J. Howard Winslow,	Brewster,	-	76,076	-	-	-	-	-
D. B. Shove,	Berkley,	300	187,714	-	-	-	-	-
T. N. Babbitt,								
C. W. Simmons,								
Wm. C. Kelley,	Centerville,	-	-	-	-	-	-	-
John S. Rebeiro,	Cohasset,	-	-	-	-	-	-	-
Robert Ainsley,								
H. M. Smith Estate,	Chilmark,	-	22,698	-	-	-	-	-
John S. Ryder,	Chatham,	165	362	169	1,823	399	216	102
E. J. Ryder,								
O. C. Eldredge,								
E. S. Gould,								
B. F. Patterson,								
C. S. Nickerson,								
Wm. A. Bloomer,								
W. F. Hitchins,								
J. F. Eldredge,								
J. D. Hammond,								
H. F. Gould,								
A. Z. Atkins,								
G. W. Bloomer,								
E. F. Mayo,								
A. J. Edwards,	Dennisport,	-	-	-	-	-	-	-
C. W. Simmons,	Dighton,	825	209,642	-	-	-	-	-
C. E. Whitmarsh,								
J. A. Hardy,								
Cornelius Anderson,	Eastham,	-	-	188,000	-	-	-	-
A. K. Higgins,								
John Davis,	Gloucester,	-	16,375	85,768	-	-	-	-
Joseph Parsons,								
W. T. Tuttle,	Harwichport,	-	-	-	-	-	-	-
Thomas Weston,	Hingham,	-	451	-	-	-	-	-
Albert Morgan,	Lanesville,	-	-	73,560	-	-	-	-
J. J. Woodbury, Jr.,								
J. W. Roberts,								
Henry Cotton,	Medford,	-	178,876	-	-	-	-	-
Randall Hathaway,	Middleborough,	-	109,374	-	-	-	-	-
Joseph Robinson,	Mattapoisett,	-	252,670	-	-	-	-	-
B. F. Stevens,	Marblehead,	-	-	72,900	-	-	-	-
J. T. Adams,								
R. C. Glass,								
S. B. Perkins,								
Stephen Holmes,	Manomet,	-	-	87	-	-	-	-
G. W. Holmes,								
G. A. Manter,								
C. A. Caswell,	Newburyport,	-	268,100	534,000	-	441	-	-
Nester Thurlow,								
John Watkins,	Nantucket,	4	-	38	-	23	1,722	153
M. J. Francis,								
G. H. Hamlin,								
H. C. Orpin,								
J. O. Freeman,								
Geo. E. Coffin & Co.,								
W. I. Fisher,								
H. B. Cash,								
W. F. Ramsdell,								

GILL AND SWEEP NETS.

1892.

Sea Bass.	Butterfish.	Frostfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
-	-	-	-	-	-	2,210	-	5,380	-	-	-	-	-
-	2	-	-	-	-	-	-	1,031	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	66	-	-	-	-	-
-	32	-	-	-	-	1,031	-	-	18	-	-	-	-
-	-	-	-	-	-	-	-	-	-	442	-	-	-
14	302	-	867	12	-	12,058	1	4,818	-	-	-	-	329
-	-	-	-	-	2,341	780	-	108	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	6,000
-	-	-	-	-	-	121,148	-	800	-	19,300	-	-	-
-	-	-	101	-	-	6,226	-	-	-	-	-	-	-
-	-	-	-	-	-	1,372	-	136	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	1,620	-	-
-	-	-	-	-	-	502	-	186	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	200	-	-
-	12	24	4,122	-	-	3,755	-	-	-	-	-	800	-
-	74	-	-	-	-	67	-	-	-	-	-	-	752
-	-	-	-	-	-	-	-	-	-	-	13,178	-	-
-	95	-	-	69	-	198	-	15,108	1	2,187	5,018	49	-

Gill and Sweep Nets — Concluded.

PROPRIETOR.	TOWN.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.
E. W. Smith, . . .								
Elisha Nickerson, . .								
B. R. Kelley, . . .								
W. M. Ewell, . . .								
J. H. Emery, . . .								
M. S. Brown, . . .								
J. E. Weeks, . . .								
A. L. Daggett, . . .								
Geo. Lewis, . . .	Provincetown, .	–	–	41,953	–	–	–	–
Ruben Ryder, . . .								
J. J. Cook, . . .								
Joseph Sears, . . .								
H. L. Mayo, . . .								
Isaac Tyler, . . .								
J. M. Caton, . . .								
J. H. Little, . . .								
Wm. Harlow, . . .								
Cornelius Briggs, . .	Plymouth, .	–	–	–	–	–	–	–
Joseph Brown, . .								
J. J. Pool, . . .								
J. W. Bushey, . . .								
M. Matherson, . . .								
E. C. Parsons, . . .	Pigeon Cove, .	32	5,259	65,821	–	–	–	–
Calvin G. Parsons, . .								
Martin Currier, . .								
Gustavus King, . .								
G. B. & E. Williams, .	Raynham, .	802	102,965	–	–	–	–	–
Gilbert Rich, . . .								
G. W. Gott, . . .	Rockport, . .	–	1,750	165,000	–	–	–	–
A. F. Nesbett, . . .								
G. A. R. Horton, . .	Swampscott, .	–	–	64,840	–	–	–	–
Nathaniel Blanchard, .								
E. W. Wilber, . . .								
F. W. Luther, . . .	Somerset, . .	22	73,519	–	–	–	–	–
John Simmons, . .								
T. L. Prouty, . . .								
James Edson, . . .	Scituate, . .	–	120	10,281	–	–	–	–
G. F. Edson, . . .								
H. P. Macomber, . . .	Taunton, . .	107	67,863	–	–	–	–	–
R. S. Lombard, . .								
G. F. Lewis, . . .								
C. M. Grozier, . . .	Truro, . .	–	–	100	–	–	–	3
B. F. Lombard, . .								
C. F. Hill, . . .								
J. M. Soule, . . .								
L. W. White, . . .	Westport, . .	13	32,269	–	4	–	–	–
Frank D. Grinnell, . .								
W. S. Doane, . . .								
Geo. Baker, . . .	Wellfleet, . .	–	363,740	2,000	–	–	–	–
H. T. Crowell, . . .								
P. P. Akin, . . .	Yarmouth, .	–	177,940	–	–	–	–	–
Totals, 110, . . .	. . . .	2,270	2,148,763	1,501,567	700,627	863	1,938	260

Gill and Sweep Nets — Concluded.

Sea Bass.	Butterfish.	Frostfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
-	135	-	15,007	44	27	487,760	-	18,964	-	53,145	-	-	-
-	-	-	-	-	-	460	-	-	-	-	-	-	32
-	89	-	4,350	-	-	28,519	-	-	-	-	-	5	1,550
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	10,571	-		-	-	-	-	-
-	-	-	2,475	-	-	1,193	-	-	-	351	62	-	2,575
-	-	-	-	-	-	-	-	-	-	1,155	2,727	-	2,398
-	76	-	-	-	-	1,607	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	50	-	-	-	-	6,717	-	1,497	-	-	-	-	-
-	60	4,831	-	-	-	-	-	-	-	289	2,862	-	15,724
-	-	-	-	-	-	1,895	-	6	40	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	4,458	-	-
14	927	4,855	26,922	125	2,368	688,119	1	48,100	59	76,769	30,125	854	32,107

POUNDS AND WEIRS.

1892.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.
Elisha H. Bearse,	Barnstable,	–	103	–	–	730	–	–	–
F. D. Atwood,									
Neil Nelson,	Brewster,	1	524	–	19,800	50	107	–	–
Thadeus Ellis & Son,									
James Eldredge,									
S. W. Gould & Co.,	Chatham,	–	1,724	9,760	24,340	16,170	2	14,904	67
S. F. Bearse,									
G. W. Crowell,									
R. Flanders & Co.,	Chilmark,	–	337	7,070	1,850	–	2	336,136	5,653
H. C. Pool & Co,									
C. C. Church,	Cuttyhunk,	–	28	4,175	–	1,141	–	174,595	182
W. A. Gifford,									
J. F. Briggs,	Dartmouth,	–	499	186,353	476	11,449	325	30,137	24,093
Wait & Smith,									
C. F. & J. Manchester,									
G. H. Snell,									
Nicholas Prilaux,									
Geo. Prilaux,									
W. S. Mathews,	So. Dartmouth,	–	361	210,084	84	9,082	249	378,408	18,720
D. E. Howland,									
Benj. Queriple,									
A. R. Reed,									
Anthony T. Chase,									
Wm. M. Stone,	Dennis,	–	4,037	69,432	121,762	50,415	23	18,235	406
Zenas H. Baker,									
Thatcher Kelley,									
Peter Higgins,									
Wm. H. Nickerson,	Eastham,	–	24	16,860	10,992	–	–	–	–
N. M. Knowles,									
R. H. Horton,									
Clarence Tibbets,									
B. S. Brazier,	Gloucester,	1	–	36,050	31,800	–	–	–	–
Daniel Douglass,									
A. B. Veder & Co.,									
John Manley,									
Peter B. Davis,	Gosnold,	16	22	23,815	–	195	–	571,440	1,556
H. J. Allen,									
J. P. Holmes,									
Wm. S. Pease,	Gay Head,	–	13	1,305	603	224	96	130,506	6,991
B. Luce & Co.,									
D. F. Weeks,	Harwich,	–	1,593	10,065	10,400	5,300	–	32,160	170
B. F. W. Nickerson,	So. Harwich,	–	500	1,640	3,825	1,200	–	14,306	31
Frank A. Garr,	Magnolia,	–	78	7,825	695,265	318	–	19	–
Alfonzo Tarr,									
J. E. Rogers,	Marblehead,	–	–	8,285	–	–	–	–	–
Geo. W. Douglass,									
Edward W. Heath,	Manchester,	–	20	59,374	428,048	240	–	495	118
Geo. & Chas. Jones,									
T. L. Mayo,	Nahant,	–	–	–	499,800	–	–	–	–
A. L. Walker,	Orleans,	–	–	–	44,000	–	–	–	–
Solomon Bangs,									
J. A. Lewis,									
I. W. Lewis,									
H. J. Lewis,	Provincetown,	–	2,749	155,839	5,885,045	1,720	9	21	1
R. E. Cornwell,									
T. K. Paine,									
I. B. Lewis,									
W. & S. Ellis,									
John B. Parsons,	Rockport,	–	–	35,340	116,200	–	–	–	–
Jerry Shehan,									

POUNDS AND WEIRS.

1892.

Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
–	–	40,311	–	26	397	–	99,692	–	1,871	354	1,306	–	25,700	116
–	–	–	–	–	6	–	478,996	–	4,230	508	1,356	–	17,600	40
8	476	55,432	–	1	–	–	36,520	–	11	394	6,592	2	749,026	3
19	8,356	5,850	–	37	543	1	7,282	–	331	492	6,390	1	–	–
–	11,052	19,859	–	16	–	–	51	–	2	153	2,013	–	33,000	–
45	64	28,629	62	47	3	–	57	22	1,175	2,238	34,103	4,737	2,755	5,000
49	176	63,970	2,699	10	6	–	1,276	20	250	13,678	109,668	2,481	85,522	3,112
60	115	14,833	4	1	133	–	148,749	–	459	937	5,414	135	133,129	1,149
–	–	540	–	1	63	–	458,232	–	3,179	1,875	32,210	–	120,000	37,200
–	–	399	45	6	3	–	87,793	–	–	1	76	1	700	–
17	26,010	186,458	1,257	46	–	–	172	–	–	1,682	10,078	–	13,395	71,458
22	27,283	5,242	14,953	8	526	–	7,080	–	93	284	15,997	–	18,920	–
–	477	25,120	–	–	–	–	2,745	–	189	265	–	–	72,300	33,667
–	618	6,945	–	–	–	–	2,634	–	49	188	1,886	–	274,100	–
–	–	4,375	–	792	–	10	141,089	–	–	17	–	–	–	474,630
–	–	625	–	42	–	–	53,714	–	–	–	–	–	2,700	–
–	–	1,425	–	1,615	–	–	46,777	–	7	44	–	–	9,000	548
–	–	1,100	–	–	–	–	26,900	–	10	–	–	–	–	–
–	–	–	–	–	2	–	21,637	–	42	–	–	–	400	–
–	7	14,374	97	207	234	123	621,173	–	1,449	30	51,714	219	62,605	3,281
–	–	962	–	1,446	–	–	33,572	–	–	3	–	–	–	29,452

Pounds and Weirs — Concluded.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.
Joshua Smith,	Sandwich,	–	53	34	237	536	7	7	700
Robert S. Perry,									
Warren Cove Weir Co.,	Sagamore,	–	139	–	–	–	–	–	–
Thomas Neville,	Salem,	–	110	–	190,900	1,073	–	–	–
S. B. Rich,	Truro,	3	1,411	128,657	4,021,675	1,057	–	8	1
S. B. Atwood,									
David Blachford,									
R. A. Rich,									
P. L. Paine,									
Atkins & Hughes,	No. Truro,	–	40	–	3,608,970	–	–	–	–
L. H. Knowles,									
O. S. Daggett,	West Tisbury,	–	152	18,588	23,328	3,853	382	52,920	2,580
H. N. Luce,									
Jason Luce & Co.,	No. Tisbury,	–	6	–	–	–	–	247,000	4,059
W. N. Vincent,	Vineyard Haven,	–	35	7,500	–	1,750	–	49,500	64
P. M. Stuart,	Wood's Holl,	–	100	29,365	105	18,714	96	371,188	4,711
C. B. Coombs,									
J. J. Veeder,									
Isaiah Spindell & Co.,									
P. S. Tripp,	Westport,	–	–	239	–	–	–	–	–
J. J. Austin,	So. Westport,	–	–	3,505	–	–	3	–	–
T. B. Wilcox,									
Roland Kelley,	Yarmouth,	–	–	–	–	–	109	–	–
Totals, 83,		21	14,658	1,031,160	15,739,505	124,917	1,410	2,421,985	70,085

Pounds and Weirs — Concluded.

Kingfish.	Sea Bass.	Butterfish.	Frostfish.	Cod.	Bonito.	Horse Mackerel.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Squid.	Other Edible or Bait Fish.
-	1	4,675	-	86	132	150	87,186	4	384	123	614	1	79,330	273
-	-	-	11	-	-	6	14,706	-	38	1,570	77	-	7,000	39,000
-	-	14,616	-	-	-	-	47,904	-	-	-	1,723	184	84,930	45,193
-	-	66,499	-	2,792	506	578	1,286,531	-	755	2,192	16,792	2	88,357	1,721
-	-	1,450	-	250	-	37	979,846	-	-	1,143	21,906	-	183,020	-
549	6,455	9,676	1,076	177	333	-	356	-	1,184	2,545	6,184	1	41,550	15,600
-	3,373	-	-	256	17	-	2,339	-	10	-	1,428	-	-	-
6	836	970	-	5	76	-	93	-	10	39	1,405	-	8,110	-
255	4,533	81,093	8	7	38	-	1,194	1	568	14,888	14,132	-	209,397	7,457
-	-	-	-	-	-	-	-	-	-	127	-	297	-	4,092
-	-	-	1,236	-	-	-	-	-	-	-	3,408	8	-	2,140
-	-	-	-	-	-	-	9,937	-	-	111	-	-	-	22
1,030	89,882	655,428	21,448	6,874	3,018	845	4,706,233	47	16,296	45,881	346,772	8,069	2,344,846	775,154

Comparison of Returns for the Years 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891 and 1892.

Year.	Fisheries. Kind.	No.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
1882,	Pounds and weirs,	85	27,769	1,420,919	1,201,449	8,102	4,219	1,991,480	67,266	3,289,512	310	133,805	40,512	114,843	4,016	-
1883,	" "	87	5,994	1,250,263	339,116	4,048,022	2,876	1,848,583	92,671	4,756,490	246	60,182	35,481	184,387	5,361	-
1884,	" "	93	5,392	715,886	2,806,203	308,381	6,950	1,641,129	74,826	1,440,486	99	109,694	23,929	288,930	33,980	-
1885,	" "	80	18,088	1,066,148	6,564,619	6,255	1,365	1,240,630	17,746	2,643,190	24	32,575	47,231	317,082	7,741	128,698
1886,	" "	58	15,874	1,012,802	1,364,684	48,910	2,412	1,966,243	3,226	1,290,466	20	17,315	47,490	261,595	11,570	572,334
1887,	" "	62	14,044	1,453,820	1,713,846	127,951	1,233	2,153,504	15,742	1,069,609	109	44,204	89,075	304,492	7,615	812,810
1888,	" "	83	50,057	1,054,607	6,665,698	1,202,777	2,455	1,448,451	127,602	2,877,768	115	38,376	63,214	358,917	10,805	2,716,892
1889,	" "	103	25,591	1,417,950	17,000,308	1,203,669	4,924	1,331,673	36,043	825,152	524	17,287	69,719	289,993	20,163	1,859,924
1890,	" "	88	22,961	1,198,561	4,432,690	2,911,970	5,302	354,423	43,988	1,297,264	1,242	60,633	25,637	210,476	9,180	958,872
1891,	" "	87	26,587	2,039,107	10,643,504	1,976,856	1,413	3,160,446	98,749	3,045,814	323	28,355	33,476	389,416	17,511	569,794
1892,	" "	83	14,658	1,031,160	15,739,505	124,917	1,410	2,421,985	70,085	4,706,233	47	16,296	45,881	346,772	8,069	1,588,890
1888,	Traps, fykes and irregular returns,	8	-	5,150	252,685	7,750	-	-	-	288,466	-	-	-	3,123	3,544	-
1889,	Traps, fykes and irregular returns,	15	2,994	89,516	1,212,942	184,239	64	86	54	64,938	13	2,690	339	2,246	2,060	76,073
1882,	Gill nets and sea seines,	133	1,738	424,630	310,611	633	1,427	99,046	4,205	587,087	87	191,668	6,245	33,487	3,033	-
1883,	" "	112	26	41,996	79,689	937,627	838	6,254	1,102	392,535	4	131,815	966	12,681	1,755	-
1884,	" "	85	6,544	67,312	541,689	1,526	632	7,855	3,254	216,829	6	136,068	1,578	19,031	2,426	-
1885,	" "	78	444	117,674	82,151	9,546	601	26,854	1,656	183,156	1	101,371	233	30,948	967	5,454
1886,	" "	49	22	397,727	151,782	311	1,524	13,019	42	75,463	9	32,343	1,039	14,592	21,670	17,326
1887,	" "	35	801	347,109	779,211	57	601	676	2,586	177,401	3	22,018	457	14,206	30,416	4,708
1888,	" "	142	92,010	468,934	734,374	94,310	1,349	7,704	2,027	633,627	2,172	199,546	1,314	30,738	18,701	52,049
1889,	" "	208	4,533	401,445	357,054	202,094	1,421	4,062	4,545	271,017	157	55,718	2,576	35,745	199,360	80,008
1890,	" "	183	1,448	174,213	686,948	239,474	1,980	2,289	1,141	209,863	1,488	181,401	754	29,950	81,979	94,448
1891,	" "	94	8,308	161,363	315,641	43,624	229	489	535	163,750	89	55,254	80	26,824	10,336	24,324
1892,	" "	91	214	444,024	967,567	1,827	422	1,938	260	688,119	1	48,100	59	75,614	14,220	23,711
1882,	Connecticut River seines,	3	2,770	-	-	-	-	-	-	-	-	-	-	-	-	-
1883,	" " "	4	3,591	-	-	-	-	-	-	-	-	-	-	-	-	-
1884,	" " "	2	1,593	-	-	-	-	-	-	-	-	-	-	-	-	-
1885,	" " "	1	1,718	-	-	-	-	-	-	-	-	-	-	-	-	-
1886,	" " "	1	577	-	-	-	-	-	-	-	-	-	-	-	-	-
1887,	" " "	1	850	-	-	-	-	-	-	-	-	-	-	-	-	-
1888,	" " "	1	824	-	-	-	-	-	-	-	-	-	-	-	-	-
1889,	" " "	1	796	-	-	-	-	-	-	-	-	-	-	-	-	-
1890,	" " "	1	58	-	-	-	-	-	-	-	-	-	-	-	-	-
1882,	Merrimac River seines,	4	387	2,800	-	-	-	-	-	-	-	-	-	-	-	-
1883,	" " "	2	146	-	-	-	-	-	-	-	-	-	-	-	-	-
1884,	" " "	2	111	-	-	-	-	-	-	-	-	-	-	-	-	-

| | | |

Comparison of Returns, etc. — Concluded.

Year.	Fisheries.		Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Eels.	Other Edible Fish.
	Kind.	No.														
	Increase of 1887 over 1886, .	–	–	–	825,166	48,289	–	165,711	15,089	–	83	11,391	40,387	44,033	–	227,980
	Decrease of 1887 below 1886,	12	174	75,099	–	–	2,103	–	–	338,285	–	–	–	–	8,801	–
	Increase of 1888 over 1887, .	152	129,908	642,287	5,323,861	1,438,526	1,442	–	111,493	2,743,828	2,377	174,452	–	112,490	–	2,556,781
	Decrease of 1888 below 1887,	–	–	–	–	–	–	472,363	–	–	–	–	18,542	–	9,437	–
	Increase of 1889 over 1888, .	88	–	–	12,249,666	2,790,316	3,139	–	–	–	–	–	2,111	–	180,949	–
	Decrease of 1889 below 1888,	–	108,739	150,000	–	–	–	336,789	89,208	2,640,286	1,795	165,179	–	104,726	–	859,427
	Increase of 1890 over 1889, .	–	–	–	–	2,605,452	868	–	4,488	346,510	2,036	166,339	–	–	–	–
	Decrease of 1890 below 1889,	61	11,168	579,009	14,437,039	–	–	979,109	–	–	–	–	46,243	87,064	118,794	903,673
	Increase of 1891 over 1890, .	–	–	1,915,902	5,626,625	–	–	2,804,223	53,754	1,701,947	–	–	7,165	175,320	–	–
	Decrease of 1891 below 1890,	89	2,492	–	–	2,431,752	5,640	–	–	–	2,318	158,425	–	–	18,812	518,202
	Increase of 1892 over 1891, .	–	–	–	6,132,327	–	631	–	–	2,184,788	–	–	12,384	7,301	–	1,026,879
	Decrease of 1892 below 1891,	9	20,418	1,774,899	–	4,373,252	–	737,012	28,939	–	364	19,212	–	–	45,783	–

PUBLIC DOCUMENT . . . . . No. 25.

REPORT OF THE COMMISSIONERS

ON

INLAND FISHERIES AND GAME

FOR THE

YEAR ENDING DECEMBER 31, 1893.

BOSTON:
WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
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Commonwealth of Massachusetts.

To His Excellency the Governor and Honorable Council.

The Commissioners on Inland Fisheries and Game beg leave to present their twenty-eighth annual report.

Fishways.

The Commissioners were called upon to examine the fishways at East Taunton and Middleborough.

At East Taunton the fishway was found to be in a decayed condition, and will have to be rebuilt in a few years. As the owners of the dam desired to raise the water some two feet above its former level, plans were furnished for extending this fishway.

At Middleborough the freshet of last spring had carried away the posts supporting the fishway, and it was found broken in the middle and a part of it had fallen to the ground. The mudsill for sustaining the screen to prevent the fish from going up under the dam was also washed away. Directions were given for repairing the fishway, and putting in a new mudsill.

Mr. James A. Burgess, for many years fish-warden of the river, was instructed to look after the work, and on November 4, he reported: "The fishway at East Taunton has been put in thorough repair. The fishway at Sherman's mill (Middleborough) has been raised and stone piers put under it, and everything that is needed is being done for the passage of the fish next spring."

As the fisheries of Taunton Great River are largely dependent upon the efficiency of these fishways, the Commissioners have given them much attention, but this Board cannot be held responsible for the injudicious action of the town in

selling the fishing right to an irresponsible party who did not regard the regulations for the capture of fish, so that many thousands were unlawfully taken.

Lawrence Fishway.

We append the following statement from Thomas S. Holmes, who has the care of the fishway at Lawrence. His full report will be found in the Appendix.

To the Commissioners on Inland Fisheries and Game.

Gentlemen : — I herewith send you my report of fish seen in the Lawrence fishway. You will observe that a large number of salmon were seen passing up, this year. They were running all the season, there being almost as many in the fishway in October as in June. The run of fish generally follows the rise of the water in the river. Low water, no fish. A rise in the river, and salmon appear.

Mr. Patrick McCarthy succeeded again this year in taking a salmon with an artificial fly. Another fisherman claims that a salmon rose to his fly twice, but he did not succeed in getting the fish. This would indicate that fishermen will be rewarded with considerable sport, if they have patience to follow it up, in fishing for salmon below Lawrence.

The run of alewives was very small again this year. A few years ago they were increasing in the river.

Mr. Knowles estimates that two hundred dollars will cover all the work that would be needed on the fishway another year. This includes the change at the upper end, so that the water will not come in with so much force ; caulking ; removing the little dam that makes a pool at the lower end, and repairing the electric alarm.

There has been no work done on the fishway this year.

Yours truly,

Thomas S. Holmes, *Warden.*

We regret to learn that the salmon, which have been steadily increasing, have been stopped on their way to the headwaters by dams above and below Concord, and it is reported that many were taken at or near these dams.

We are assured by the New Hampshire Commissioners that fishways will be built there early next spring.

Hatchery at Sutton.

The work at this place has been pushed forward as far as the means at our disposal would permit.

A large pond covering nearly half an acre, and capable of sustaining eight or ten thousand breeding fish, has been made by throwing a dam, seven feet high, across the stream.

The bottom of this pond is covered with mud. As the trout instinctively avoid such a place for spawning, a gravelled runway has been made at the inlet, where the fish are easily secured in the spawning season and stripped of their eggs.

Four large tanks have been built below the dam, supplied with water from the pond, which are used for retaining the large trout, and for arranging and classifying the fish during the breeding season. There are also two smaller ponds for yearlings.

A good substantial hatching-house has been built, equipped with twelve troughs, each thirteen feet long and eighteen inches wide, and 132 Brackett trays, which give a capacity for nearly 800,000 eggs. There is room in the house for six more troughs, which would make its capacity about one million. The hatching troughs or runs are supplied with pure water flowing from driven wells above the pond, and conducted in pipes to the hatchery. By this arrangement all danger from impurities or contamination from surface water is avoided, and an even temperature of the water secured.

Below the dam is an ice-house which can be filled with ice from the pond at a trifling expense. This is necessary in the transportation of the fry in the spring, and for the preservation of food for the fish in summer.

We have just completed a dwelling-house, with modern appliances, for the use of the Superintendent, and the grounds around it are partially graded.

The State owns the land upon which the works are built, and the control of all the stream desirable.

Five or six ponds are needed for rearing trout for keeping up and increasing the number of breeding fish.

During the past eighteen months we have been able to secure 1,500 breeding fish, varying from two ounces to two pounds in weight. From these we secured, this fall, over 200,000 eggs.

The number of breeders should be increased as fast as possible to not less than fifteen thousand. By reserving enough of the small fry, this can be accomplished in two years with very little expense.

To complete this plant in a manner worthy of being a State hatchery will require an additional appropriation.

The economic value of artificial hatching, as a means of supplying food, is recognized all over the world. A few statistics will indicate the progress which has been made in several localities.

New York has six hatcheries, the estimated values and annual expenses of which are given as follows: —

Adirondack hatchery,	estimated value,		$9,500 00	annual expenses,		$4,518 74
Caledonia hatchery,	"	"	23,500 00	"	"	9,736 06
Cold Spring Harbor hatchery,	"	"	11,100 00	"	"	6,972 20
Fulton Chain hatchery,	"	"	2,160 00	"	"	2,748 98
Sacandaga hatchery,	"	"	6,000 00	"	"	3,357 86
Chautauqua Lake hatchery,	"	"	1,250 00	"	"	-
			$53,510 00			$27,333 84

In summing up the results of their work the Commissioners say: "No investment the State can possibly make can be of greater importance or result in more benefit than the money spent for the artificial propagation of fish. Whatever cheapens the food of the people in this day, when wages tend to the minimum and are so near the cost of living, is to be desired, and the small amount expended each year for the artificial propagation of food fishes, is returned to the people of the State a hundred fold."

The Canadian government, with its natural wealth of fisheries, finds it necessary in order to sustain them to resort to artificial hatching, maintaining for this purpose twelve hatcheries, nine of which, with cost of maintenance, we copy from their report of 1887–8: —

Newcastle hatchery, annual expense, . . .	$5,367 00
Sandwich, " " " . . .	3,513 00
Restigouche, " " " . . .	3,768 00
Sydney, " " " . . .	2,796 00
Tadousac, " " " . . .	1,971 00
Miramichi, " " " . . .	1,347 00
Bedford, " " " . . .	3,904 00
Gaspé, " " " . . .	2,164 00
Dunk River, " " " . . .	1,260 00
Superintendent's salary, ...	1,780 00
Total, ...	$27,850 00

In speaking of the results at the Bedford hatchery, Mr. A. B. Wilmot says: — "Where there has been an outlay of $2,000 we have received a return of $10,000, or five dollars for every one expended."

The State of New Hampshire, with a population and wealth less than the City of Boston, has nine hatcheries, and the last Legislature made an appropriation for two more.

Massachusetts, the first State in the Union to take action in the artificial propagation of fish, has only one (as yet uncompleted) State hatchery; one-half ownership in the works at Plymouth, N. H., and a cheap arrangement at Winchester for developing and hatching eggs taken elsewhere. We recommend the establishment of a hatchery in one of our western counties. It would be desirable as being in the center of a large distributive territory, and would be an efficient adjunct to our present facilities.

Plymouth (N. H.) Hatchery.

To the Commissioners of Fish and Game for the Commonwealth of Massachusetts.

Gentlemen: — I herewith submit my annual report of the work done at this station for the year ending Dec. 1, 1893.

The salmon eggs were taken and young fry planted as usual in the Pemigewassett River.

Of the brook trout eggs taken, 348,000 were sent to Winchester, and 75,000 to Wilkinsonville, Mass., making 423,000 (one-half of the whole number) sent to Massachusetts.

Extensive repairs have been made at the hatchery grounds. New tanks have been built for the breeding trout, and a close, high fence encloses both tanks and ponds. Many trout were lost during the winter, owing to the depredations of mink, but everything will be made secure before another winter.

On account of the severe winter drought, there was a great loss of trout in the streams, and owing to the scarcity occasioned thereby, no addition was made to the stock of breeding trout in the ponds.

Respectfully yours,

E. B. Hodge, *Superintendent.*

Plymouth, N. H., Dec. 1, 1893.

The eggs received from the Joint hatchery last January were more or less defective, and consequently there was considerable loss in hatching. A list of the distribution will be found in the Appendix.

Massachusetts' share of eggs for 1894 will be less than for 1893, but the deficiency will be more than made up by the 200,000 taken at Sutton.

Near the close of the session of the New Hampshire Legislature last spring there appeared in one of the papers of that State an unfriendly and unwarranted attack on the joint relations between the two States, which led to the appointment of a committee to investigate the matter, and report to their governor and council.

By request your Commissioners appeared before this committee and gave a detailed statement of the relations between the States. There was not and never had been one particle of evidence to warrant the attack, and the author of it was conspicuous by his absence from the hearing.

Your Commissioners felt that, as a simple act of justice, they were entitled to a copy of said report of said committee, and after waiting a reasonable time, a request was made to the governor and council, which elicited the following reply: —

STATE OF NEW HAMPSHIRE.

Office of Secretary of State, Concord, Aug. 1, 1893.

Hon. E. A. Brackett, —

Dear Sir: — The Governor refers your letter. I am exceedingly sorry I cannot send you a report. I am not even aware when the committee will make a report, if ever. They have answered through the press that they find nothing, and at best, or worst, it is presumed that the report will be an empty narrative, without event or finding of any point of moment.

Very respectfully,

Ezra S. Stearns, *Secretary of State.*

It may possibly be desirable to terminate the joint ownership in the Plymouth hatchery. We therefore recommend that your Commissioners be empowered to make such arrangements with New Hampshire as may, in their judgment, be for the best interest of our State.

Experienced fish-culturists are rare. In addition to careful training, they should possess an enthusiastic love for the work, and an intuitive judgment which would enable them to meet any sudden and unexpected emergency.

There are many things connected with the hatching and

rearing of fish which, to the casual observer, might appear unimportant, the neglect of any one of which might result in the loss of the whole year's work.

Rearing and Planting Trout.

All applications for trout should be made before the first of April each year, endorsed by the senator or representative of the district where the applicant wishes to plant the fry. Such endorsement is a guarantee of the good faith and standing of the party making application, and relieves the Commissioners from making further inquiry.

The trout fry are delivered free at the State hatchery, either at Sutton or Winchester, in April or May, or as soon as they are ready to be turned out. Cans for transportation are furnished, and full directions given for carrying and planting them.

In all cases applicants are required to deposit the fry at the extreme headwaters, in the springs and rills which are always found connected with good trout streams. This method of stocking has been pursued in this State for several years and has proved very successful, yielding from twenty to twenty-five per cent. of marketable fish from the number planted.

Objections to this Method.

Within a few years there has come to the front a theory that it is better that the fry should be kept in small ponds until they are six months or a year old before they are turned out, it being claimed that if they are put into streams as soon as the yolk sac is absorbed they will be destroyed by the larger fish. If this point is well taken then it follows that such streams must be stocked annually with yearlings, as the natural products would meet with the same fate. There may be a few streams where annual stocking with yearlings would be desirable, but they are not natural trout streams.

The objection is based on the false idea that trout eat each other. In the wild streams, where food is plenty, trout are not cannibals. They never destroy each other, except when driven to it by starvation or disease. Anglers who have been

in the habit of examining their catch to ascertain what the fish have been feeding on have rarely, if ever, found one trout inside of another. Again, the headwaters of all good trout streams are free from all fish except the young fry.

Another fact, and to us it appears to be a fatal objection to the stocking with yearlings, is that fish reared in small ponds and artificially fed lose their instinct of self-preservation.

Upon this point we speak with confidence, having tried experiments which, if not conclusive, are worthy of further investigation. Trout and land-locked salmon, fourteen months old, which had been artificially reared in a small pond, were turned into a stream connecting two large ponds. They were turned in just below a bridge, and as the day was a bright one they moved up into the shadow to avoid the sunlight. They were closely looked after, and in less than an hour most of them were inside of the perch and pickerel, and the only reason that any escaped was that the large fish were so gorged that they had no room for more. This experiment has been tried several times, and in no instance did the young trout and salmon show fear or any disposition to avoid their enemies.

It may be said that the experiment was not a fair one, and that trout and salmon do not inhabit waters infested by these fish. But it is well known that many of the lakes and ponds in Maine and New Hampshire where these fish are abundant contain both perch and pickerel. Sunapee Lake, in New Hampshire, was formerly full of red perch and pickerel and a few trout. It was stocked with black bass and subsequently with land-locked salmon in a way not likely to be repeated: a small steamer, upon whose deck was a can containing 4,000 land-locked salmon fry six weeks old, blew up in the middle of the lake and the can went to the bottom. Tons of bass have been taken from the lake and the red perch have decreased.

There are no large streams running into the lake, and the trout and salmon spawn mainly among the rocks near the shores and on the sand-bars.

The young fish hatched here retain their instinct of self-preservation, and are sufficiently wary to keep out of the

way of their enemies, to the extent that they are rapidly increasing. Trout are far more abundant than they were before the introduction of black bass. Mr. E. B. Hodge, ex-Commissioner of New Hampshire, who has carefully studied the fisheries of this lake, attributes the increase of salmon and trout to the destruction of the red perch by the black bass.

A writer in the "London Fishing Gazette" gives an account of two tanks of trout from Mr. Andrews' Guilford hatchery, which were turned into a tributary of the Thames. After describing the difficulties attending the transportation, he says: "These Guilford fish swam up and down the brook and had no fear of us whatever. It is to be hoped that before they reach the Thames they will have learned that there are dangers in this life to be avoided, and that the world is not one big stew, in which they are to look to mortals for three meals a day, regular. The fish, I should have mentioned, varied in size, from eight inches downward." We quote the above testimony, because it is in keeping with every experiment we have made in the planting of yearling trout.

Expense of Rearing.

Trout fry, just ready to feed, are sold by the dealers at from three to four dollars per thousand, while those from six months to a year old command $75 per thousand. Either the expense of rearing is considerable, or the profit is large. That the system should be advocated by those who are raising yearling trout to sell is natural enough. Mr. Andrews, a leading English fish-culturist, says: "The dealer will find his largest gain in the sale of one and two year old trout."

We have endeavored to obtain information in regard to the number or percentage of trout reared to seven months or a year old. The returns for different years vary; for some years, from 20 to 25 per cent., while for others as high as 50 and even 80 per cent. is claimed, but the average seems to be from 35 to 40 per cent. Why, in the same ponds, with the same management, it should vary so much, no one seems able to explain. There is also a great difference in the growth of the young fish; in the same pond and with the same food, some growing much faster than others.

We append the following statements from Mr. Charles G. Atkins, whose scientific and practical knowledge in fish-culture has always been a guarantee of success:

(1.) We carry but few fry through to the age of a year. The most of them are liberated in October or November. For instance, out of 200,000 fry on hand in October, we would liberate all but 12,000 or 15,000, so that the most of the fry are only retained for seven months. To that age we get sometimes (twice since 1887), less than 50 per cent. of those hatched (one year a good deal less), but those two years were years of epizooties. One year we carried through over 80 per cent. from the egg to seven months. This year we save about 72 per cent. of our Atlantic salmon and 68 per cent. of all sorts. The loss from seven to twelve months, is very slight, say not over two per cent.; so I might say, for yearling fish, our loss would be from 20 to 50 per cent.; that is, 50 to 80 per cent. saved.

(2.) The greatest loss during our two worst years was during the sac stage. Other years it has been the first six weeks of feeding.

(3.) We carry 250 to 400 seven months old fish in eight gallons of water a few miles by wagon in October. Those cans are 16 inches in diameter on bottom. I doubt whether 25 inches depth of water would carry any better than 15. In same cans we carried in each 200 brook trout ten months old to Vermont in winter without loss.

(4.) Loss in transportation, generally none at all. Heaviest loss this year was 27 fish on a shipment of 6,077 young fish, three months old, to Duck Lake, July 4, 50 miles by rail and 45 by wagon."

Another well-known breeder writes: "I do not think that we have heretofore averaged over 20 or 25 per cent. to the age of one year. This year, at this time (October 24), we have in our nursery about 75 per cent. of what we planted in April."

Mr. Thomas Andrews, Guilford, England, says: "After turning out a known number of fry we can recover, after twelve months, from 30 to 50 per cent., and sometimes more, of good strong yearlings. I think I should be tolerably well pleased if I could depend upon finding 50 per cent. of yearlings every year. I have recovered 85 per cent. some

years and have lost 95 per cent. in others. The greatest living authority on trout breeding, Sir James Maitland, requires from 100,000 to 200,000 fry to produce 50,000 yearlings."

The Commissioners of Michigan, in their report of the meeting of the American Fisheries Society (1892), state that "among the subjects discussed at the last meeting was that of planting fingerling trout instead of fry, and elicited much interest. On this subject papers were read by Mr. Frank N. Clark of the United States hatchery at Northville, Mr. Fred Mather of the New York commission and Mr. Herschel Whitaker of our Board. The discussion was very general. Mr. Whitaker's paper appears in the Appendix. The conclusion reached by the representatives of the states which have done most in the work, notably Wisconsin, New York, Pennsylvania and Michigan, was that in view of the unqualified success which had been hitherto attained through fry planting alone, and the greatly added expense of rearing any considerable number of trout to be yearlings before planting, it was unadvisable and impracticable, when the work was carried on upon anything like a large scale, to supplant fry planting with that of yearlings, however well it might answer as an interesting experiment on a small scale."

Transportation.

In a can containing ten gallons of water 5,000 trout fry, six or eight weeks old, may be safely transported to any part of the State, while with trout from seven months to one year old only about 200 can be safely transported in each can any great distance.

As the railroads have kindly allowed these cans of fish to be carried in the baggage-car free of charge, the addition of ten times the number of cans for transporting less than half the number of fish might become a serious matter to the roads, and probably deprive us of the privilege we now have. So far as we know, there is as yet no evidence to prove conclusively that this mode has any advantage over the stocking with young fry, while the expense of rearing and transporting is greatly increased.

This theory is by no means new. It was tried in Scotland

more than twenty-five years ago, and condemned by that distinguished naturalist and writer on fish-culture; Frank Buckland, and others, who contended "that better results would follow if the fry were turned into the streams as soon as the yolk sac is absorbed. The same conclusion was reached in France, in regard to trout, by the Marquis de Folleville at his establishment near Rouen."

Briefly Stated.

(1.) The planting of young fry at the age when they begin to feed is the most simple, direct and inexpensive method of stocking the brooks.

(2.) If, as it is claimed, the fry are destroyed by larger fish, it is evident that such a brook is not suitable for raising trout, since the same fish that destroy the planted fry would destroy the natural product of the parent fish.

(3.) Trout in the wild streams are not cannibals, and unless driven to it by starvation or disease, do not destroy each other. The headwaters of all good trout streams are entirely free from all fish except the small fry.

(4.) There is not as yet any conclusive evidence that there is any advantage in planting older fish.

(5.) The difference in the percentage of trout raised in small ponds and artificially fed and the survival of the fry planted in the streams is not sufficient to warrant the difference in expenditure.

(6.) When the ponds are sufficiently large to supply the young fish with an abundance of natural food, and where the fish can be turned directly into the stream, the objection to the expense of rearing and transportation is removed; but there still remains the fact that they have been reared in ignorance of their enemies, which in their new life may prove a serious matter. The loss or arrested development of the instinct of self-preservation is common to the lower forms of animal life when removed from natural environments and bred in confinement.

Protection of Young Fish.

The law prohibiting the sale of trout less than six inches in length is well enough as far as it goes, but to be effective

it should prohibit taking and having in possession, as well as offering for sale. There can be no question that one of the most serious obstacles to the preservation of our fisheries is the destruction of the young fish, for if they were allowed to mature sufficiently to deposit their spawn, if for *one* year only, it would go a long way toward keeping up the supply, The importance of this cannot be over-estimated, for it lies at the foundation of all our fisheries and marks the line between failure and success, and unless we look to it carefully one of the most important food supplies will continue to be a waning industry.

In the bays, lakes and the rivers the steady decline of the fisheries must be apparent to every careful observer. The theory that they can be maintained by artificial propagation against the wholesale destruction of both the young and old fish is wrong, for there will come a time (and in some instances it has already come) when the supply of mature fish, upon which we must depend for eggs, must fail.

The Legislature cannot err in passing stringent laws for the protection of the young fish.

It is not and should not be the policy of the State to go to the expense of raising trout to the length of four or five inches and plant them in brooks, only, perchance, to be caught out the next day by improvident fishermen.

The Commissioners have constructed works at Sutton and are increasing the breeding trout as fast as possible, and will, in a short time, be able to deliver from that place several hundred thousand fry annually. Let the people demand proper protection for them, for in no other way is success certain.

Fish culture has passed from theory into thoroughly practical work. Certain things are well known and understood by those who have given it attention. There can be no objection to experiments being tried by any one having time and means at his disposal. But we object to conclusions based upon theories, unsupported by facts.

It rests upon those who advocate the theory of stocking with yearlings, to show by a series of carefully conducted experiments the advantage that is claimed for it, and in so doing the cost of fry and yearlings must be taken into ac-

count, for 25,000 fry could be purchased for the price charged for 1,000 yearlings.

Interest in Fish-culture.

At no time since the advent of fish-culture, has there been so much interest felt in the work. The marvellous exhibit at the World's Fair, which was constantly crowded from the opening to the close, has made the public more or less familiar with what is being done in this direction.

Frequent applications are made for instruction in breeding fish, and also for persons who are competent to take charge of breeding ponds and hatcheries. There are no colleges or institutions where such information is taught, and oral instruction, without manual training, is of little use. Object lessons and a participation in the work is necessary to enable one to become proficient in fish culture.

To meet this want in a small way, and in the hope that it may induce the Agricultural College to establish a course of instruction in this department for the training of young men, a few students will be accepted at the State hatchery at Sutton, where a course of lectures will be given on all subjects connected with the breeding and rearing of fish. No charge will be made for tuition, but the students will be expected to devote a part of their time, as at the Agricultural College, to manual training in every department necessary to a practical understanding of the work. No student will be accepted for less than one year, and when properly qualified will receive a certificate of fitness to take charge of such work.

To farmers owning trout brooks we commend the following extract from the address of the Governor of New York at the Washington (N. Y.) County Fair: — "I doubt if many of you know what an important work is being done for the public interests of the State in the matter of fish propagation. This is a comparatively new feature of State effort, but is beginning to assume considerable proportions. Our State Fish Commission was established somewhat more than ten years ago and its chief work is to encourage the propagation of food fish in all available streams and waters, so that all the people of the State may be direct participants in the benefits to be gained. We have been so accustomed

to regard land as the source of food that we have ignored the enormous possibilities of water as a food supplier; but we are now beginning to see that the 1,500 square miles of water area in this State may be turned into profitable and abundant food supply." He urged the farmers to set their boys to work raising fish in the brooks and ponds, instead of sending them to the cities as clerks; that many of the clear, cold brooks, used only for watering stock, could be turned into trout streams; that he had seen many a spring brook running through a farm, comparatively valueless, which, devoted to trout culture, might be worth hundreds of dollars a year to the owner, and the profit of such little streams might be greater than twenty or thirty acres of land. "You will find fish culture more profitable than growing wheat at seventy-five cents a bushel."

Fish culture has, in many cases, proved a failure from a lack of knowledge in constructing and managing the plant. It is not alone in the sale of trout in the market that the farmer could look for his profit. There are many anglers who would be glad to pay a good price per pound for the privilege of fishing in a well-stocked brook.

In this way the size and number of fish caught could be controlled, and a small hatching house and one or two ponds at the head of the brook would keep up the supply.

Where there are several streams within a few miles of each other, the owners could unite, and one hatchery would supply all of them.

The work in a hatching house is mostly done in winter, when work is slack on the farm.

Lake or Salmon Trout.

About forty thousand of these eggs were hatched last spring, and planted in two ponds on Cape Cod. Application has been made to United States Commissioner McDonald and accepted for one hundred thousand eggs to be hatched next spring and planted in suitable ponds.

White Perch.

There have been several applications for this excellent fish, and it was intended to obtain a supply for distribution this fall, but the retaining pond for them could not be completed

in time. We now expect they will be ready in the spring, and all applications will be filled as fast as possible.

There are many ponds in the Commonwealth suitable for these fish, and they should be stocked with them.

Carp.

Only five applications were made for carp last year. Fifty fine, healthy young fish, one year old, were given to each.

Carp are so easily and inexpensively raised that it seems strange that so little attention is paid to them in this State. There are many farms containing streams or ponds unsuitable for trout where carp could be successfully grown. They flourish best in warm shallow water where weeds are abundant, and if taken out a few days before they are wanted for the table, and put into cold spring water, the flesh becomes hard and they loose the muddy flavor. Their growth where there is plenty of vegetable food is phenomenal. Six years ago, a few of them were planted in the Abijona river (headwaters of the Mystic) and last May and June they were found spawning, some of them weighing from ten to fifteen pounds each. A few carp have found their way to the Boston market, where they sold at sixteen and seventeen cents a pound.

By the following extract from "The American Fish Culture," some idea of their abundance and market value elsewhere is shown: —

Lake Erie Carp, Their Price, the Demand for Them.

By the overflow and breaking away of ponds and the stocking of streams by fish commissioners with the surplus from the hatcheries, the carp have worked their way into Lake Erie, and have multiplied and thriven until, during the fishing season just closed, quantities of them were taken in the pounds as well as in the gill nets of the numerous individuals and companies who make a business of fishing in this great lake, which, by the way, is the great fishing ground in the chain of lakes, and is peculiarly the whitefish lake.

What do these fishermen do with the carp when they have caught them? This is a pertinent question and its answer is of great interest to all those persons who have been raising carp. All fish taken are assorted, and each kind, when there are enough of

them, are put into boxes which hold two hundred pounds, and these boxes are then taken to the fish warehouses of merchants, who make a specialty of shipping them to retailers, etc. The carp are assorted in this same way and sent to these same merchants, who are not only glad to get them, but cannot get enough of them, and they very gladly pay the same price for them as they pay for the famous whitefish, which has always been considered the best fish in the lake. For instance, when the warehouse-man paid six cents a pound by the box for whitefish, he paid six cents a pound by the box for carp. In this connection I wish to say that many of the finest restaurants and hotels in this State today have German carp on their bills of fare as often as they can get the bill of fare to warrant it.

I want to take an exception to their calling them German carp; they are no more German carp than a child born of German parents in this country is a German. They are American carp. Among the many restaurants in Ohio that have carp regularly on their bill of fare is the Strannahan restaurant, in the Arcade building in Cleveland. This is one of the best conducted and successful eating houses in that great city. Every day they feed thousands of people, including many of the epicures of the city, who take their midday lunch there, and every other day carp is the fish on their bill of fare. Facts like these knock over the silly twaddle of writers who are seeking a cheap notoriety in condemning not only the carp, but the commissioners for bringing them to this country, and who know nothing of the merits of the fish, and have not attempted to learn. A few years more, when the carp can be supplied regularly and in sufficient quantities to hotels and restaurants to answer their purpose it will become one of the staple fish of this country, and the enterprise that furnishes them alive to the market will be well rewarded.

Lobsters.

It will be seen by the returns that while there has been an increase in the number of traps, there has not been a corresponding increase in the number of lobsters taken. The season opened very favorably, with an unusual catch of large lobsters, but it fell off during the summer and fall.

The constant patrolling of the coast by the steamer, the capture * of short and egg-bearing lobsters secreted in crates sunk in out of the way places, and the frequent conviction

* Number of short and egg-bearing lobsters seized and planted in depleted places, 6,411. Estimated number of eggs, 4,720,000.

in the courts of violators of the law, has had a salutary influence upon those who have heretofore disregarded regulations for the protection of these fish.

No persons outside of the State have set traps in Massachusetts waters this year, and the several smacks plying between this and other States, inducing the fishermen to violate the law, have been driven out, and the captain of one was brought before the court and fined.

The protection which this steamer has given to the law-abiding fishermen, has satisfied them that the State is energetically protecting this important industry.

It is too soon to realize any practical result from the protection of egg-bearing lobsters, for it is generally admitted that it takes from five to seven years for the newly hatched lobsters to reach a marketable size. There can be no question as to the benefit to be derived from the ten and one-half inch law, but unfortunately, a large majority of the female lobsters do not spawn until they reach from eleven to eleven and one-half inches in length, and in consequence there is an alarming decrease in egg-bearing lobsters.

The catch of egg-bearing lobsters, as reported by the fishermen, for the last four years, is as follows : — 1890, 70,909 ; 1891, 49,973 ; 1892, 37,230 ; 1893, 32,741. The returns from the Wood's Holl Station give an average of over 14,000 eggs per lobster. At that ratio, the returns for 1890 should give 992,726,000, and the decrease since 1890 would be 534,352,000, a loss of over 50 per cent.

The lobster does not belong to the great ocean fisheries ; he is a bay or estuary fish, and can be and has been on some parts of the Atlantic coast almost entirely destroyed. On all parts of this coast the supply may be said to be greatly reduced in numbers by indiscriminate and excessive fishing.

To change the law to eleven and one-half inches, so as to allow the female to have at least one year's spawning, might, for one or two years, interfere with the income of the fishermen, but they would be more than compensated in a few seasons by the increase in number and weight of their catch.

Should this decrease of the egg-bearing lobsters continue it may become necessary to recommend a change. At

present, this State has the best law for the protection of these fish of any State in the Union. Let the fishermen see to it that it is faithfully kept, and when the full results are known a change may not be required. Neither they nor the State can afford to lose this important industry.

At the request of U. S. Commissioner Marshall M'Donald a permit was granted to take lobsters in Massachusetts waters for propagation and scientific observation, and Mr. John Maxwell of Wood's Holl was appointed deputy commissioner with authority to take or cause to be taken such lobsters as might be required. The following is his statement of the work:

U. S. Commission of Fish and Fisheries,
Wood's Holl, Mass., Aug. 25, 1893.

E. A. Brackett, *Chairman Board of Fish and Game, Winchester, Mass.*

Dear Sir: — Under date of May 15, 1893, I received an appointment as Deputy from your Honorable Board of Commissioners, "to hold good until Jan. 15, 1894, unless sooner revoked." This appointment carried with it the right to purchase egg-bearing lobsters for use at the U. S. Commission Station at Wood's Holl, Mass., with the understanding "that said lobsters, after being deprived of their eggs, shall be returned to the water alive."

In obedience to the instructions contained in your letter of the same date, in reference to the number of lobsters purchased, I beg leave to make the following report: —

Between May 19 and June 29, —			
Purchased	619	egg lobsters, which yielded	9,142,090 eggs.
Collected by employees at Station,	85	egg lobsters, which yielded	895,210 "
Total	702		10,037,300

Fry produced and liberated, 8,818,000; 87.5 per cent. was hatched and liberated, principally in Vineyard Sound, from twenty-four to forty-eight hours after hatching.

All the brood lobsters, after being deprived of their eggs (except a few that were shipped to the World's Fair), were placed in the deep waters of Vineyard Sound, care being taken to place them at points where lobster pots are not usually set. Our steam launch was used for this duty.

Very respectfully,

John Maxwell, *Superintendent.*

In 1889 the Massachusetts Commission conducted a series of careful experiments in artificially hatching lobsters, and the following statement was made in their report of 1891. Many of the facts then demonstrated were new, and we are not aware that any of them have been called in question.

At a hearing before a legislative committee on fish and game, for the purpose of discussing the question of a close season on lobsters, the fishermen claimed that they spawned every month in the year. Our investigations have shown this to be correct, but not in the sense which the fishermen claimed for it. Such spawning is an exception to the general rule, for the bulk of the spawn is deposited in June, July and August. While engaged in hatching lobsters in April, 1889, some facts were discovered leading to the conclusion that lobster eggs did not hatch in the winter time. To verify this, egg-bearing lobsters were secured in the fall, and kept in cars until spring. The temperature of the water was taken every day, and a few eggs were sent to Professor Garman, at Cambridge, every two weeks, for microscopic examination. It was found that little or no progress was made in the development of the embryo, until the water reached a temperature of 50° F., and no eggs were hatched until the water rose to 55°. These experiments have demonstrated the fact that, no matter what time the eggs are deposited on the swimmerets, they require a certain degree of warmth to mature them. It is doubtful whether, if hatched below this temperature, they would find the animalculæ necessary for their food.

Our experiments in hatching lobsters showed that, with proper arrangements, it was easy to hatch them by millions, but such an arrangement would require a hatching house, with machinery for lifting the water so that there would be a constant flow over the eggs; and that they could be kept in confinement, from four to eight days, according to the temperature of the water, after which they either destroyed each other or died of starvation. No efforts yet made to feed them have succeeded; and, however successful one may be in hatching them, they should be let loose, at once, to take their chances in the open sea.

Egg-bearing lobsters, put in boxes properly prepared and

floated in sheltered places, demonstrated the fact that there were no unimpregnated eggs. All hatched at about the same time. Whether they are impregnated before or after the eggs are laid has not yet been positively determined.

In our experiments we repeatedly removed the eggs from the swimmerets, and hatched them in boxes on wire screens. We found that by the most careful handling, this could be done with a loss of from ten to twenty per cent. This is verified by the experiments at Wood's Holl, where from 10,037,300 eggs, 8,818,000 were hatched, showing a loss of 1,219,300.

We recommend an appropriation for the erection and maintenance of an establishment for the hatching and distribution of young lobsters, and believe that it can be made the agency and instrument of increase of these desirable shell fish and a matter of largely increasing importance to our people.

Steamer "Ocean Gem."

Repairs were commenced on the steamer, for the season of 1893, the 13th of April, and she sailed for the fishing grounds May 13, under command of Captain Proctor of Swampscott, for the suppression of illegal fishing along the coast from New Hampshire to the Rhode Island line.

The illegal taking and marketing of short and egg-bearing lobsters by parties outside of the State has been practically stopped, and the fishermen engaged in evading the laws have turned their attention to other modes of fishing. The fishermen of our own State appear to be well satisfied with the present laws.

From the middle of August to October 10, the steamer was, most of the time, on duty in and about Buzzard's Bay, in order to prevent seining by the menhaden steamers which were about there from September 10 to October 5, necessitating her presence on the grounds at all times, day and night.

It has been an exceedingly rough season, and the boat, having to be out in all kinds of weather, has had several narrow escapes. During the hurricane, August 19, she came near foundering, as she was caught in the lower bay

and had the full force of the gale to contend with. Also during the severe weather of the fall, while guarding the lower part of the bay, which the enforcing of the laws demanded, she was kept in rough water most of the time.

The Commissioners' instructions to the captain are to keep in the lower bay, when the menhaden steamers are about, and much of the time it keeps a boat like this with her decks flooded with water, and everything must be in first-class condition to stand the work she is called upon to perform.

After her rough experiences of last season we deem advisable, and her condition demands, a thorough overhauling, to put her in good seaworthy condition to do the work safely and satisfactorily. For without a suitable boat the shores would be left unprotected, and the good work which has been accomplished during the last four years by the enforcement of the laws, would be undone, and the propagation of lobsters would lapse into the same condition as before; which means a further diminution of food fish. On these grounds we think it wise for the Commonwealth to be in a position to protect its fisheries at all times.

Captain Proctor has run the boat this season without accident and has still further demonstrated his ability to fulfil the requirements of the Commission. His report will be found in the Appendix.

Ground game has been fairly plentiful this year.

It is scourged and decimated by increased vermin.

The low price of peltries decreases the number of persons who trap for predatory animals, hence the increase of creatures that are destructive, both of the game and the feathered product of the farms. For several years we have with emphasis recommended the payment of bounties for the destruction of these animals, and yearly the measures fail, as we believe, through lack of appreciation both of the fact of the existence of these animals in large numbers, and the damage and mischief done by them.

In the agricultural places of the State, and even in proximity to our middle amd western cities and large towns and the towns and villages of the Cape, these nocturnal maraud-

ers pursue their work and increase their numbers with little disturbance or fear.

Foxes, wild-cats, skunks, weasels and other like vermin are more plentiful than they were twenty years ago, notwithstanding the increase of the population.

Measures for the abatement of these pests are necessary, and we renew again, earnestly, our recommendation of several preceding years that a law providing bounties be passed. Such laws for the killing of destructive seals have been in successful operation for several years in one or more of the counties of the Commonwealth.

The importation and successful acclimatization in other States of several varieties of European grouse and pheasants demonstrate the entire feasibility of stocking nearly, if not all, New England with one or more varieties of these birds.

Private endeavor and enterprise in our own State by public-spirited and interested citizens have done much toward replenishing our depleted covers with native and foreign birds.

The authorized expenditure by the Commission of a small sum each year, especially in co-operation with private effort, would be justified and is advisable.

Weirs.

While the catch of mackerel has been less than last year, the sea-herring have been caught in large quantities and have furnished a supply of bait to the deep-sea fishermen through the season at reasonable prices, enabling them to prosecute their business without being obliged to go to foreign waters, which is very expensive, and much valuable time lost in pursuit of bait. This is a very important matter to our fishermen, and as usual has furnished employment to a large number of worthy citizens.

This season, cold storage plants have been erected at Provincetown and Truro by private enterprise, for the purpose of taking care of the surplus herring and other fish, so that from the time that the fish leave our shores until the arrival of winter herring from Newfoundland, a supply can be obtained. Without a liberal supply of bait the great fisheries cannot be successfully carried out, and whatever

tends to facilitate the labor of the hardy fishermen, should be freely granted by the State.

In the Appendix will be found the tabulated returns of the catch of fish. It will be seen that in the lobster fisheries there has been an increase over 1892 of 59 persons engaged in fishing, 2,948 traps and 41,968 marketable lobsters, and a decrease of 4,489 egg-bearing lobsters.

Weirs and Pounds.

Increase in number over 1892,	42
in alewives,	975,653
in sea-herring,	2,519,220
in menhaden,	4,150,776
in squeateague,	235,943
in Spanish mackerel,	2,034
in blue-fish,	7,827
in squid,	297,805

A slight increase in shad, the total catch of which, in both salt and fresh water, amounts to only 18,474.

Decrease below 1892—	
Striped bass,	1,711
Scup,	207,376
Mackerel,	2,809,266
Tautog,	10,972
Flounder and flatfish,	72,792
Other edible fish and bait,	22,426

Correct returns of the annual catch of fish are important to the fishermen as well as to the State, and in order to facilitate the work some slight changes are desirable in the laws regulating the returns.

We feel confident that at no time have the laws been so thoroughly enforced as during the past year, or the work of the Commission more efficiently or economically carried on.

EDWARD A. BRACKETT.
EDWARD H. LATHROP.
ISAIAH C. YOUNG.

APPENDIX.

[A.]

LIST OF FISH COMMISSIONERS.

The United States.

Col. Marshall McDonald, Commissioner, Washington, D. C.
Capt J. W. Collins, Assistant in Charge of Fisheries Division.
Richard Rathbun, Assistant in Charge of Scientific Inquiry.

Alabama.

Col D. R. Hundley, ... Madison.
Hon. Chas. S. G. Doster, ... Prattville.

Arizona.

T. W. Otis, ... Prescott.
John Howard, ... Prescott.
C. W. Stearns, ... Phenix.

Arkansas.

H. H. Rottaken, President, ... Little Rock.
W. B. Worthen, Secretary, ... Little Rock.
J. W. Callaway, ... Little Rock.

This State has never made an appropriation for fish culture.

Dominion of Canada.

Hon. C. H. Tupper, Minister of Marine and Fisheries, Ottawa.
Hon. John Tilton, Deputy Minister, Ottawa.
S. P. Bauset, Chief Clerk, Ottawa.
Samuel Wilmot, Superintendent of Fish Culture, Ottawa.
Inspectors of Fisheries: J. R. Kinney, Yarmouth, N. S.; R. C. Hockin, Pictou, N. S.; A. C. Bertram, North Sydney, N. S.; J. H. Pratt, St. Andrews, N. B.; R. A. Chapman, Moncton, N. B.; D. Morrow, Oromocto, N. B.; E. Hackett, Tignish, P. E. I.; W. Wakeman, Gaspe Basin, P. Q.; Thos. Mowat, New Westminster, B. C.; Alex McQueen, Winnipeg, Manitoba; F. C. Gilchrist, Fort Qu'Appelle, N. W. T.
Officers in Charge of Fish-breeding Establishments: S. Wilmot, Superintendent of Fish Culture, Newcastle, Ont.; Chas. Wilmot, Officer in Charge, Newcastle hatchery, Ont.; Wm. Parker, Sandwich, Ont.; L. N. Cattelier, Tadoussac, Q.; H. Davis, Gaspe, Q.; A. H. Moore, Magog, Q.; Alex. Mowat, Restigouche, Matapedia, P. Q.; A. B. Wilmot, Bedford, N. S.; C. A. Farquharson, Sydney, N. S.; Isaac Sheasgreen, Miramichi, N. B.; Charles McCluskey, St. John River, Grand Falls, N. B.; Henry Clark, Dunk River, P. E. I.; Thomas Mowat, B. C. hatchery, New Westminster, B. C.

NEWFOUNDLAND.

Hon. A. W. Harvey, Chairman, St. Johns; M. Harvey, Secretary, St. Johns; Adolph Neilson, Superintendent of Fisheries, St. Johns.

CALIFORNIA.

Joseph D. Redding, President,	San Francisco.
H. L. M'Neil,	Los Angeles.
Wm. C. Murdoch, Secretary,	San Francisco.
F. P. Deering, Attorney,	San Francisco.

COLORADO.

Gordon Land,	Denver.

CONNECTICUT.

James A. Bill,	Lyme.
Samuel M. Bronson,	Hartford.
Richard E. Follett,	Lime Rock.

The Shellfish Commissioners are: Dr. Wm. H. Hudson, Chairman, Hartford; George C. Waldo, Bridgeport; Bryant A. Treat, Wallingford.

DELAWARE.

Charles H. Shubert,	Odessa.
Dr. E. G. Shortlidge (Supt. of Hatcheries),	Wilmington.

GEORGIA.

R. T. Nesbitt,	Atlanta.
Dr. H. H. Cary, Superintendent,	La Grange.

ILLINOIS.

N. K. Fairbank, President,	Chicago.
S. P. Bartlett,	Quincy.
Geo. Breuning,	Centralia.

INDIANA.

Col. W. T. Dennis,	Richmond.

IOWA.

E. D. Carlton,	Spirit Lake.
Ole Bjorenson, Superintendent.	

KANSAS.

John M. Brumbaugh,	Concordia.

MAINE.

Thos. H. Wentworth,	Bangor.
Henry O. Stanley,	Dixfield.
E. W. Gould, Sea and Shore Fisheries,	Searsport.

MARYLAND.

G. W. Delawder,	Oakland.
G. R. Rider,	Salisbury.

MASSACHUSETTS.

E. A. Brackett,	Winchester.
I. C. Young,	Wellfleet.
E. H. Lathrop,	Springfield.

MICHIGAN.

Hoyt Post,	Detroit.
Herschell Whitaker,	Detroit.
H. W. Davis,	Grand Rapids.
Seymour Bower, Superintendent,	Detroit.
Wm. A. Butler, Treasurer,	Detroit.
Geo. D. Mussey, Secretary,	Detroit.

MINNESOTA.

W. S. Timberlake,	St. Paul.
Wm. Bird,	Fairmont.
W. P. Andrus,	Minneapolis.
A. F. Ferris, Secretary,	Brainerd.
F. von Baumbach,	Alexandria.
S. S. Watkins, Superintendent,	St. Paul.

MISSOURI.

H. M. Garlichs, Chairman,	St. Joseph.
J. L. Smith,	Jefferson.
Edw. Cunningham,	St. Louis.
A. C. Garlichs, Secretary,	St. Joseph.
Philip Kopplin, Jr., Superintendent,	St. Louis.
James W. Day, Superintendent,	St. Joseph.

NEBRASKA.

William L. May,	Omaha.
S. C. Burlingim,	Seward.

NEVADA.

Geo. T. Mills,	Carson City.
Ernest Harris, Deputy,	Carson City.

NEW HAMPSHIRE.

W. T. Shurtleff,	Lancaster.
W. H. Griffin,	Manchester.
Nathaniel Wentworth,	Hudson.

NEW JERSEY.

George Pfeiffer, Jr.,	Camden.
Robert D. Foote,	Morristown.
Parker W. Page,	Summit.

NEW YORK.

L. D. Huntington, President, ... New Rochelle.
W. H Bowman, ... Rochester.
A. S. Joline, ... Tottenville.
D. G. Hackney, ... Fort Plain.
Rob't Hamilton, ... Greenwich.
E. P. Doyle, Secretary and Engineer,
Office 81 Fulton Street, New York.

OHIO.

B. F. Seitner, Secretary, ... Dayton.
J. H. Newton, ... Newark.
John H. Law, ... Cincinnati.
H. B. Vincent, ... M'Connellsville.

OREGON.

H. D. M'Guire, Fish and Game Warden.

PENNSYLVANIA.

Henry C. Ford, 1823 Vine Street, ... Philadelphia.
G. H. Welshous, ... Pittsburg.
H. C. Demuth, ... Lancaster.
L. B. Stillwell, ... Scranton.
Louis Streuber, ... Erie.
W. L. Powell, ... Harrisburg.

RHODE ISLAND.

Henry T. Root, Treasurer, ... Providence.
William P. Morton, Secretary, ... Johnston.
J. M. K. Southwick, ... Newport.

SOUTH CAROLINA.

Hon. A. P. Butler, ... Columbia.

TENNESSEE.

W. W. McDowell, ... Memphis.
H. H. Sneed, ... Chattanooga.
Edward D. Hicks, ... Nashville.

UTAH.

A. Milton Musser, ... Salt Lake City.

VERMONT.

John W. Titcomb, ... Rutland.
Charles C. Warren, ... Waterbury.

VIRGINIA.

Dr. J. T. Wilkins, ... Bridgetown.

WEST VIRGINIA.

C. S. White, President,	Romney.
F. J. Baxter, Treasurer,	Sutton.
N. C. Prickett, Secretary,	Ravenswood.

WASHINGTON.

James Crawford,	Vancouver.

WISCONSIN.

The Governor, *ex officio*.	
Philo Dunning, President,	Madison.
C. L. Valentine, Secretary and Treasurer,	Jamesville.
Mark Douglass,	Melrose.
A. V. H. Carpenter,	Milwaukee.
Calvert Spensley,	Mineral Point.
E. S. Miner,	Sturgeon Bay.
James Nevins, Superintendent,	Madison.

WYOMING TERRITORY.

Louis Miller,	Laramie.

[B.]

Commissioners on Inland Fisheries and Game.

GENTLEMEN: — As a Deputy Fish and Game Commissioner, I respectfully submit the following report for the year 1893. I have made but seven prosecutions during the year, five for violations of the laws in relation to lobsters, and two for offering game for sale in the close season. The number of complaints sent me of instances where the laws were being violated have not exceeded fifty per cent. of the number sent me in previous seasons. The number of undersized lobsters taken for the purpose of selling has not been near as large as in any season during my experience as a Deputy. I have frequently examined ten barrels at a time, without so much as finding even one. The lobsters offered in our markets have been of good size and quality. Very few soft shelled culls have been sold by street peddlers, as compared with former seasons. From observation and experience, I feel justified in saying that the execution of the fish and game laws will compare favorably with the execution of the laws in relation to criminal offences in other Departments. Several complaints have been sent me of parties taking partridges by means of snares; birds are frequently seen in the markets that have been thus taken. I see no direct remedy for this evil while the statute allows a person to snare game birds and animals on his own premises. This season, in August, we found a person in the woods with gun and dog, who claimed he was not hunting, but training his dog to point game. If a hunter fails to shoot when the dog points the game, his education in the line of pointing will be slow, and a sensible dog soon becomes disgusted with the work of his master. If the hunter does not intend to shoot, why does he carry his gun loaded when training his dog? If the statute provided for the seizing and confiscating of both gun and dog from persons found shooting in the woods in close time, the illegal killing of game birds and animals would soon cease. Amount of fines imposed, $50.

Respectfully yours,

B. P. CHADWICK,
Deputy Commissioner.

BRADFORD, Dec. 5, 1893.

Nov. 15, 1893.

Gentlemen: — I have the honor to submit the following report: I have inspected the Massachusetts coast in a steamer, and find that the fishermen of this State are complying with the law better than in former years. The owners of menhaden steamers from other States still disregard our laws and steal in and attempt to catch fish whenever an opportunity is offered.

It has taken all my time during the latter part of the summer to protect our waters from the raids of said steamers.

The destruction of young lobsters has not been as great, owing in part to an excellent law that was passed by the last Legislature, prohibiting lobster fishing by non-residents.

Smacks from other States came into our waters near the State line and carried away small and egg-bearing lobsters without any regard for our laws.

The strict enforcement of chapter 183, Acts of 1893, has caused these poachers to abandon our waters entirely.

The requirements of chapter 28, Acts of 1881, are being very well complied with.

I have not had any complaint of violation of the game laws and there has not been any to my knowledge.

Number of cases investigated,	30
Number of arrests,	21
Convicted and fined,	18
Sentenced to House of Correction (two years),	1
Discharged by court,	2
Violation of lobster law,	16
Violation of fish law,	2
Violation of liquor law,	1
Breaking and entering,	1
Attempt to rape,	1
No. lobsters seized and planted in depleted places,	6,411
No. eggs planted,	4,720,000
Stolen property recovered,	$10.00
Amount of fines imposed,	$1,665,00

Respectfully submitted,

W. H. Proctor,

District Police Officer.

Marion, Dec. 1, 1893.

To the Commissioners on Inland Fisheries and Game.

Gentlemen: — In submitting my report I am pleased to say, that in the district assigned to me, the laws for the protection of fish and game have been better respected this year than for a long time. Owing to the fact of business being very poor at all the

summer resorts, the fishermen have been able to easily supply the demand for lobsters, and in consequence very few short lobsters have been used during the season, compared to former years. The fishermen in the vicinity of Plymouth report the spring catch of lobsters larger and more plenty than for many years, with a slight falling off in the later months. They firmly believe that the Act of 1889, protecting the female egg-bearing lobster, is beginning to be felt, and I am glad to note that a large majority of them, whenever they take an egg-bearing lobster, disjoint the claw before returning it to the water, thereby not only preserving it for a breeder, but at the same time making it unmarketable, in case some less honest fisherman should again catch it. There have been no complaints, neither have I been able to learn of any violations of the game laws.

A few complaints have been received for violations of the smelt laws, and while considerable time, both night and day, has been spent to thoroughly investigate such complaints, I have failed to find any evidence against the parties complained of. You will notice the returns sent in by the lobster fishermen show a large increase in the number of pots set during the year, and while they show an increase in the total catch of large lobsters over last year, they also show a decrease in the catch per pot of last year, the average catch per pot last year being a fraction over 78, while the average of this year's catch is less than 70. The returns from the pound and net fishermen, while showing an increase in some kinds of fish, also show a decrease in other kinds, but taken as a whole compare favorably with last year's catch. The fact of a person operating one, two or more pounds, and making his returns without specifying the number operated, makes it impossible to make an average of the catch per pound, and if the law could be amended requiring every person in making his return to specify the number set or operated, it would then be possible to determine whether the fisheries were on the increase or decrease.

Respectfully,

JOHN W. DELANO,
Deputy Commissioner.

FISH SEEN IN THE LAWRENCE FISHWAY IN THE SEASON OF 1893.

The spring was cold and wet; the lower end of the fishway was submerged nearly all the time. Had very high water the first week in May, highest in that month for a number of years. Saw fish (suckers) under the falls bridge two weeks before I saw them in the fishway.

May 23. Lampreys and suckers, run small.
24. Lampreys, run moderate; suckers and alewives, run small.
25. Lampreys, run moderate; suckers and alewives, run small.
26. Lampreys and alewives, run moderate; suckers, run small.

May 27. Lampreys, run large; alewives and suckers, run small.
28. One salmon, 12 pounds; lampreys, run moderate; suckers and alewives, run small.
29 to June 2. Lampreys, run moderate; suckers, run small.
June 3. Lampreys, run moderate; suckers, run small; a few alewives.
4 to 6. Lampreys, run moderate; suckers, run small.
7. Four salmon, 10 to 12 pounds; lampreys, run moderate; suckers, run small.
8. Lampreys, run moderate; suckers, run small.
9. One salmon, 10 pounds; lampreys, run moderate; a few suckers.
10. One salmon, 12 pounds; lampreys, run moderate; a few suckers.
11. Lampreys, run moderate; a few suckers and silver eels.
12. One salmon, 10 pounds; lampreys, run moderate; a few suckers.
13. Four salmon, 10 to 12 pounds, in A.M. The water was low in the river this forenoon; men were at work closing the gap left on south end of dam without flashboards; saw the dorsal fin of a large salmon show above the water in the pool at the foot of the fishway at this time. In the afternoon there was no water running over the dam (flashboards all on); this caused quite a little fall from the end of the fishway to the pool below, and this pool at the end of the fishway was crowded full of lampreys, thousands of them.
14. Two salmon, 12 pounds; lampreys, run very large.
15. Lampreys, run very large; a few silver eels.
16. One salmon, 14 pounds; lampreys, run very large.
17. One salmon, 12 pounds; lampreys, run very large.
18. Lampreys, run very large.
19 to 21. Lampreys, run large.
22. Lampreys, run moderate; small silver eels, run small.
23. One salmon, 12 pounds; lampreys, run small; river rising to-day, a little turbid.
24. Two salmon, 10 to 14 pounds; lampreys, run small; two black bass.
25. One black bass; lampreys and suckers, run small.
26. Four salmon, 10 to 14 pounds; lampreys, run small.
27. One salmon, 12 pounds; lampreys, run small.
28. One salmon, 12 pounds; lampreys, run small.
29. Three salmon, 12 to 18 pounds; lampreys, run small.
30. One salmon, 14 pounds; one black bass; lampreys, run small.
July 1. Lampreys and small silver eels, run small.
2. Thirteen salmon, 8 to 20 pounds; one black bass.
3. Three salmon, 10 to 16 pounds; a few lampreys; small silver eels and suckers.
4. Two salmon, 6 to 10 pounds; a few lampreys; small silver eels and suckers.
5 to 9. Silver eels, run small; a few suckers and lampreys.
10. Three salmon, 10 to 14 pounds.
11 to 13. Silver eels, run small; a few suckers.

July 14 to 16, 3 30 P.M., water shut out of fishway; river low.
July 16 to 19. Silver eels, run small; a few suckers.
20 to 24, 1.30 P.M., water shut out of fishway.
24 to 27. Silver eels, run small; a few suckers.
28 and 29, 1.30 P.M., water shut out of fishway.
29 to Aug. 19. Silver eels, run small; a few suckers.
Aug 20. One black bass; a few silver eels and suckers.
21. Two black bass; a few silver eels and suckers.
22. A few silver eels.
23. Four black bass; a few silver eels.
24. One salmon, 10 pounds; a few silver eels.
25. One salmon, 8 pounds; one black bass; a few silver eels.
26. Two salmon, 8 to 12 pounds; a few silver eels and suckers.
27. One salmon, 10 pounds; a few silver eels and suckers.
28. Two black bass; a few silver eels and suckers.
29. A few silver eels and suckers.
30. One salmon, 12 pounds; one black bass; a few suckers and silver eels.
31. Three salmon, 8 to 14 pounds; a few suckers and silver eels.
Sept. 1. Two salmon; four black bass; a few suckers and silver eels.
2. Three salmon; one black bass; a few suckers and eels.
3. Three black bass; a few suckers and silver eels.
4. One black bass; a few suckers and silver eels.
5. A few suckers and silver eels.
6. Two black bass; a few suckers and silver eels.
7. A few suckers and silver eels.
8. Three black bass; a few suckers and silver eels.
9. One black bass; a few suckers and silver eels.
10. Four black bass; a few suckers and silver eels.
11. One black bass; a few suckers and silver eels.
12. A few suckers and silver eels.
13. Two salmon, 10 to 14 pounds; a few suckers and silver eels.
14. A few suckers and silver eels.
15. Two salmon, 8 to 12 pounds; a few suckers and silver eels.
16 to 19. A few suckers and silver eels.
20. One salmon, 10 pounds; a few suckers and silver eels.
21 to Oct. 15. A few suckers in the fishway.
Oct. 16. Eight salmon, 6 to 14 pounds; suckers, run moderate.
17. Three salmon, 6 to 12 pounds; suckers, run larger.
Oct. 18. One salmon, 8 pounds; suckers, run moderate.
19. One salmon, 10 pounds; suckers, run moderate.
20. One salmon, 6 pounds; suckers, run moderate.
21 to 24. Suckers, run moderate.
25. Two salmon, 10 to 12 pounds; suckers, run moderate.
26. Four salmon, 6 to 14 pounds; suckers, run moderate.
27. Four salmon, 10 to 12 pounds; suckers, run small.
28 to 29. A few suckers.
30. Four salmon, 10 to 12 pounds; a few suckers.
31 to Nov 8. A few suckers; the number growing less and less every day.

[C.]

Distribution of Trout Fry.

The trout fry hatched from the eggs received from Plymouth, N. H., were distributed and planted as follows, giving to each applicant about 3,500 fish : —

Barnstable County.

W. F. Robinson, Hatchville.
J. S. Nicholson, Hyannis.
J. H. Frost, Barnstable.
A. S. Backus, Marston's Mills.
Howard Swift, East Falmouth.

Bristol County.

E. D. Buffington, Swansea.
M. S. Douglass, Acushnet.

Plymouth County.

C. J. Prouty, Scituate.
W. F. Stanley, Carver.
G. A. Harlow, Bridgewater.

Norfolk County.

L. W. Milliken, Franklin.

Essex County.

A. W. Beckford, Topsfield.
C. H. Preston, Danvers.
G. W. Starkey, Ipswich.
A. L. Clark, Ipswich.
W. H. Hills, Hamilton.
A. J. Savory, Ipswich.
J. P. King, Peabody.
S. S. Littlefield, Peabody.
John Ostler, Methuen.
J. I. Horton, Ipswich.
H. G. Merriam, Topsfield.

Middlesex County.

G. A. Colony, Ashby and Townsend.
F. D. Hall, Ashby.

Middlesex County — Concluded.

C. H. Barber, Framingham.
G. E. Cutler, Framingham.
C. F. Clark, East Sudbury.
A. W. Williams, Chelmsford.
E. H. Richards, Burlington.
A. C. Winn, Winchester.
H. F. Abbott, Dracut.
F. A. Griffin, Westford.
R. Bradbury, Westford.
H. E. Hersam, Stoneham.
J. W. Stinson, Ashburnham.

Worcester County.

F. F. Bullard, Worcester.
G. H. Harrington, Paxton.
A. G. Larkin, West Berlin.
C. H. Waymoth, Fitchburg.
W. H. Gibbs, Harvard.
E. B. Stoddard, Worcester.
S. F. Leonard, Grafton.
W. T. Bowers, Lunenburg.
F. W. Burleigh, East Princeton.
C. F. Foster, Leominster.
C. H. Kimball, West Boylston.
D. C. Luther, Leicester.
J. W. Fairbanks, Westborough.
T. A. E. Luke, Westminster.
C. V. Dudley, Northbridge.
G. M'Aleer, Worcester and Shrewsbury.
I. O. Converse, Ashburnham and Ashby.
C. W. Pillsbury, Ashburnham.
C. H. Steele, Worcester.
A. E. Warren, Holden.

Worcester County — Concluded.

A. A. Tisdale, Leominster.
C. H. Potter, Ashburnham.
S. W. Putnam, Fitchburg.
Frost and Whitcomb, Athol and Phillipston.
C. W. Bates, Phillipston.
H. S. Lytle, North Brookfield.
G. A. Wallace, Lunenburg.
H. P. Gerald, Brookfield.
A. R. Page, Uxbridge.

Berkshire County.

L. B. Moore, Tyringham.
F. C. Brown, Cheshire.
R. E. Burbank, Dalton.
J. H. Wood and others, Lanesborough, Pittsfield, Richmond.

Berkshire County — Concluded.

J. B. Richmond, Savoy.
A. L. Phillips, Adams.
E. J. Noble, Windsor.
C. W. Burton, Cheshire.

Hampshire County.

E. H. Vaughan, Prescott.
A. F. Cutting, H. A. Kimball, J. E. Clark, } Northampton and vicinity.

Distribution of Carp.

E. Gannet, Canton.
S. W. Dickinson, Harvard.
A. C. Moore, Sturbridge.
J. W. Fairbanks, Westborough.
J. F. Bowditch, North River.

[D.]

LIST OF PONDS LEASED

By the Commissioners on Inland Fisheries, under Authority given by Chap. 384, Sect. 9, of the Acts of 1869.

1874.

March 2. Upper Naumkeag Pond, in Ashburnham, to inhabitants of Ashburnham, 20 years.

May 20. Unchechewalom and Massapog Ponds, to the inhabitants of Lunenburg, 20 years.

July 11. Hazard's Pond, in Russell, to N. D. Parks and others, 20 years.

1875.

May 1. Chilmark Pond, in Chilmark, to J. Nickerson and others, agents, 20 years

July 1. Haggett's Pond, in Andover, to inhabitants of Andover, 20 years.

Aug. 1. Oyster Pond, in Edgartown, to J. H. Smith and others, 20 years.

1876.

May 20. Lower Naumkeag Pond, in Ashburnham, to inhabitants of Ashburnham, 18 years.

28. Phillipston Pond, in Phillipston, to inhabitants of Phillipston, 20 years.

1877.

Oct. 1. Fort, Great Spectacle and Little Spectacle Ponds, in Lancaster, to inhabitants of Lancaster, 20 years.

1879.

July 1. Fresh Pond, in Falmouth, to Thomas H. Lawrence, 20 years.

Oct. 1. Pomp's Pond, in Andover, to inhabitants of Andover, 15 years.

1880.

March 1. Lake Winthrop, in Holliston, to inhabitants of Holliston, 15 years.

June 1. Jordan Pond, in Shrewsbury, to inhabitants of Shrewsbury, 15 years.

July 1. Swan and Martin's Ponds, in North Reading, to inhabitants of North Reading, 15 years.

1881.

Jan. 1. Great and Job's Neck Ponds, in Edgartown, to Amos Smith and others, 15 years.

April 1. Long Pond, in Blandford, to Samuel A. Bartholomew and another, 15 years

May 2. Nonesuch Pond, in Weston and Natick, to W. A. Bullard and others, 15 years.

1882.

March 1. Blair's Pond, in Blandford, to Curtis M. Blair and another, 15 years.

April 1. Ward Pond, *alias* Wightman Pond, in Ashburnham, to Herbert F. Rockwood and another, 15 years.

May 1. Horn Pond, in Woburn, to inhabitants of Woburn, 15 years.

June 1. Wickaboag Pond, in West Brookfield, to inhabitants of West Brookfield, 15 years.

1883.

April 6. Fresh Pond, in Tisbury, to Allen Look and others, 15 years.

23. Keyes Pond, in Westford, to M. H. A. Evans, 15 years.

May 7. Singletary Pond, in Sutton and Millbury, to towns of Sutton and Millbury, 15 years.

7. The Great Pond, in Ashfield, to town of Ashfield, 15 years.

1884.

July 15. Asneybunskeit Pond, in Paxton, to inhabitants of Paxton, 10 years.

15. Center Pond, in Dennis, to inhabitants of Becket, 10 years.

15. Buckmaster Pond, in Dedham, to Francis Soule and others, 10 years.

15. Fresh Pond, in Dennis, to inhabitants of Dennis, 10 years.

17. Farm Pond, in Cottage City, to John C. Hamblin and others, 15 years.

18. Mashpee, Great and Wakeley Ponds, in Mashpee, to inhabitants of Mashpee, 10 years.

Aug. 30. Sand Pond, in Ayer, to inhabitants of Ayer, 15 years

Sept. 5. Great Pond, in North Andover, to inhabitants of North Andover, 15 years.

[E.]

MASSACHUSETTS TROUT LAW.

GILBERT *v.* COMMONWEALTH.

Sportsmen throughout the country are familiar with the battle which has been going on in Massachusetts for several years to maintain that part of the fish and game laws covering trout. Mr. Walter S. Gilbert of Plymouth, Mass., who is engaged in the rearing of domestic trout, has several times applied to the State Legislature for a law permitting the sale of artificially reared trout during the time the law forbids the sale of wild trout. The Legislature of the State declined to enact such a law, although once both branches passed a bill in Mr. Gilbert's favor, but the measure was vetoed by Governor Russell. Mr. Gilbert determined to test the law, and caused himself to be arrested by selling trout out of season.

Mr. Gilbert was indicted by the grand jury of Plymouth county. In the Superior Court the defendant asked for several rulings upon the facts which he introduced, but the court declining to give these rulings, he submitted to a verdict of guilty and appealed to the Supreme Court, which says in its decision, "The defendant contends that the penalty imposed by the Public Statutes, chapter 91, section 53, for selling trout, does not extend to the sale of trout which have been artificially propagated and maintained. Whatever force this contention might have, if section 53 stood alone, a reference to other sections of the same chapter, and to the history of this legislation makes it clear that such trout are not exempted. The chapter contains many provisions for the protection of trout and other useful fishes, and among them are those for the encouragement of their artificial propagation and maintenance. In order to make the protection of the trout more effectual, it was deemed necessary by the Legislature to punish the sale during the close season of all trout except those which are alive. This was probably on account of the difficulty of distinguishing between trout which had been artificially propagated and maintained, and other trout. . . .

"Nor have we any doubt that the statute is constitutional. The importance of preserving from extinction or undue depletion the

trout or other useful fishes in the waters of the Commonwealth has been recognized and illustrated in many familiar statutes and decisions from an early time. Such protection has always been deemed for the 'good and welfare of this Commonwealth,' and the Legislature may pass reasonable laws to promote it. Such laws are not to be held unreasonable because owners of property may thereby to some extent be restricted in its use. It has often been declared that all property is acquired and held under the tacit condition that it shall not be so used as to destroy or greatly impair the public rights and interests of the community. The Legislature may 'make, ordain, and establish all manner of wholesome and reasonable orders, laws, statutes, and ordinances, directions and instructions, either with penalties or without; so as the same be not repugnant to this constitution, as they shall judge to be for the good and welfare of this Commonwealth.' Constitution of Massachusetts, chapter 1, section 1, article 4. The Legislature may forbid the catching or selling of useful fishes during reasonable close seasons established by them, and to extend the prohibition so as to include such as have been artificially propagated or maintained is not different in principle from legislation forbidding persons from catching fish in streams running through their own lands. The statute under consideration falls within this power." The verdict of guilty is to stand. — *Shooting and Fishing.*

[F.]

LEGISLATION.

Acts of 1893.

[Chap. 36.]

An Act codifying and amending the laws relating to the alewife fishery in Mill and Essex rivers in the town of Essex.

Be it enacted, etc., as follows:

Section 1. The selectmen of the town of Essex for the time being, or a major part of them, are hereby empowered, in the month of March or April annually, to prescribe the time, place or places, and the manner of taking alewives in Mill river or brook and Essex river in the town of Essex, such time not to exceed three days in a week; and they may either appoint some suitable person or persons to take the same and fix the compensation to be paid therefor, or they may in their discretion annually sell at public auction the right to take alewives in said Mill and Essex rivers, under such regulations as they may make under this section. The said selectmen are hereby authorized to offer and pay suitable rewards for the detection and punishment of persons violating the provisions of this act, and shall be entitled to reimbursement from said town of Essex or from the proceeds of the sale of said right to take said alewives, for all sums expended for the said rewards or the enforcement of this act; and the said town of Essex, in addition to other purposes authorized by law, is authorized to raise and appropriate money for enforcing this act.

Section 2. The owners or occupants of dams across said Mill and Essex rivers shall annually during such time, not exceeding sixty days in each year, as shall be prescribed by the selectmen of said town or the major part of them for the time being, keep constantly open and maintain through, over or around their respective dams a passageway sufficient and proper for the passage of said fish, to the satisfaction of said selectmen, under a penalty of not less than ten nor more than sixty dollars for each and every

twenty-four hours they shall neglect to open a passageway as aforesaid; and the said selectmen shall, thirty days at least before the commencement of said period, notify in writing the owners or occupants of said dams, of the time when the said passageways shall be opened and the manner in which they shall be constructed and regulated.

Section 3. The said selectmen of the town of Essex, either personally or by their agents duly authorized, shall have full power and authority to cause the natural course of the stream through which said fish pass, to be kept open and free of obstructions, except the dams aforesaid, and to remove all such obstructions except as aforesaid; and for that purpose, as well as for the other purposes of this act, they or their agents shall have authority to go upon the land or meadow of any person through which said stream runs, without being deemed trespassers; and if any person or persons shall molest the said selectmen or either of them, or any of their said agents, in the execution of his or their duties under this act, or shall obstruct the passage of said fish, except as aforesaid, the person or persons so offending shall, on conviction thereof before any court of competent jurisdiction in the county of Essex, be fined for every such offence not less than ten nor more than twenty dollars.

Section 4. Any person or persons taking any of the fish aforesaid in said Mill and Essex rivers, or in the ponds in which said fish cast their spawn, at any time or in any place or manner other than shall be allowed by said selectmen as aforesaid, or who shall receive such alewives knowing or having reasonable cause to believe that the same have been taken contrary to the provisions of this act, shall for each and every offence, on conviction thereof, be fined not less than twenty-five cents nor more than one dollar for each and every alewife so taken, or shall be imprisoned in the jail or house of correction for a period not exceeding sixty days. The possession of alewives in the woods, swamps and other lands, whether public or otherwise, in the town of Essex bordering on the said Mill and Essex rivers or its tributaries, or in the buildings over or near said Mill river or its tributaries in said town, or in any boat or other craft, cart, wagon or other vehicle in or near said Mill and Essex rivers or its tributaries, or the pond in which said fish cast their spawn, in the months of April, May or June of each year, by any person or persons other than those lawfully entitled to take the same under said regulations, shall be deemed prima facie evidence of an unlawful taking or receiving under the provisions of this act.

Section 5. Any deputy sheriff, police officer or constable of the town of Essex is hereby empowered to make search for and seize in said town without warrant any of said fish which he has reason to suspect were taken at any time or place or in any way prohibited by law, together with any boat or other craft, cart, wagon or other vehicle, or the cask, barrel or other vessel containing the same, which, if used in such illegal taking or receiving, are hereby declared to be forfeited. Said officer immediately after such seizure shall give public notice of the same by posting up notices thereof in two public places near the place where such seizure was made, and if no person or persons shall appear and claim said fish of such officer within twelve hours after posting said notices, said fish and the boat or other craft, cart, wagon or other vehicle, and the cask, barrel or other vessel containing the same shall be forfeited, and the same shall be sold by public auction and the net proceeds of such sale shall enure to the benefit to the town of Essex. If a claimant for such property shall appear within said twelve hours after the posting of said notices, the officer shall libel the same according to law, or at the request of said selectmen or any of them shall sell said fish or other property at public auction and libel the proceeds of such sale according to law. In case said property or proceeds are forfeited the benefit thereof shall enure to said town of Essex.

Section 6. From and after the passage of this act the inhabitants of said town of Essex at their annual March meeting shall determine the quantity of said fish that each family in said town shall receive, and establish the price they shall pay therefor.

Section 7. One third of all the forfeitures incurred by virtue of this act shall be paid to the person or persons giving information, and the remaining two thirds to the town of Essex, to be recovered in an action of contract in any court having jurisdiction of the same, to be brought by the treasurer of said town, or, if said treasurer shall neglect to bring such action for a space of ten days after being thereto requested, by the person or persons giving the information, in the name and for the sole benefit of such person or persons. The fish commissioners shall have the same control of dams on said streams as given them in chapter ninety-one of the Public Statutes.

Section 8. All acts and parts of acts inconsistent with the provisions of this act are hereby repealed.

Section 9. This act shall take effect upon its passage. [*Approved February 21, 1893.*

[Chap. 49.]

AN ACT FOR THE BETTER PROTECTION OF QUAIL ON THE ISLAND OF NANTUCKET.

Be it enacted, etc., as follows:

Whoever takes or kills a quail on the island of Nantucket at any time within two years from the passage of this act shall be punished by a fine of twenty dollars for every bird so taken or killed. [*Approved February 25, 1893.*

[Chap. 55.]

AN ACT RELATING TO THE TAKING OF SCALLOPS IN THE WATERS OF THE TOWN OF MARION.

Be it enacted, etc., as follows:

Section four of chapter one hundred and eighty-eight of the acts of the year eighteen hundred and ninety-two is hereby amended by inserting after the word "flats", in the third line of said section, the words: — and waters, — so as to read as follows: — *Section 4.* All the privileges which the citizens of Rochester and Mattapoisett had before this act takes effect, to take scale and shell-fish from the shores or flats and waters within the town of Marion, shall remain the same as if this act had not passed. [*Approved February 25, 1893.*

[Chap. 77.]

AN ACT TO ESTABLISH AN ALEWIFE FISHERY IN EASTHAM.

Be it enacted, etc., as follows:

Section 1. William H. Nickerson, Wilber S. Cole and Austin E. Cole are hereby authorized to make the necessary improvements for the preservation and taking of alewives in the Herring pond, so-called, in the town of Eastham, and to construct an outlet from said pond to the great meadow, so-called, and through said meadow by natural creeks to the bay.

Section 2. The said parties shall be liable to pay all damage that shall be sustained in any way by any person in his property in carrying into effect this act. If any person sustaining damage as aforesaid shall not agree with the said parties in interest as to the amount of damage to be paid, he may have his damage assessed in the manner provided by law in respect to land taken for highways.

Section 3. Any fishery so created shall be deemed to be the property of the said parties and their heirs and assigns.

Section 4. No persons without the permission of the said parties, or their heirs or assigns, shall take, kill or haul on shore any alewives in the fishery so created by them.

Section 5. Whoever violates any of the provisions of this act, or any of the regulations of the said parties in interest in said fishery, shall forfeit and pay a sum not less than five nor more than fifty dollars for each offence, to be recovered by prosecution before any court in the county of Barnstable competent to try the same. Said forfeiture shall accrue to the benefit of the parties in interest in said fishery.

Section 6. All prosecutions under the preceding section shall be instituted within thirty days from the time the offence was committed.

Section 7. This act shall take effect upon its passage. [*Approved March 9, 1893.*

[Chap. 80.]

An Act providing that the close season for black bass fishing shall terminate on the first day of June.

Be it enacted, etc., as follows:

Section fifty-six of chapter ninety-one of the Public Statutes is hereby amended by striking out in the second line thereof, the word "July", and inserting in its place the word: — June, — so as to read as follows: — *Section 56.* Whoever takes a black bass between the first day of December and the first day of June, or at any time except with naturally or artificially baited hook and hand line, or buys, sells, or has in his possession any such fish taken in this Commonwealth between said dates, or otherwise than as allowed in this chapter, shall forfeit for each offence not less than two nor more than twenty dollars: *provided, however*, that this limitation of time shall not be applicable to the Connecticut river or its tributaries. [*Approved March 10, 1893.*

[Chap. 96.]

Resolve providing for a proper representation of the commonwealth at the convention of commissioners of fisheries at Chicago.

Resolved, That, the United States commissioner of fisheries having called a convention of commissioners of fisheries of the various states to meet in the city of Chicago during the present year, in order to provide for the proper representation of this Commonwealth, the governor is hereby authorized to appoint the

members of the board on commissioners of inland fisheries and game of this Commonwealth as delegates to said convention. Each delegate so appointed shall be repaid from the treasury of the Commonwealth the amount of such reasonable travelling and other necessary expenses so incurred in the discharge of his official duty as the governor and council may approve, to be paid from the appropriation for incidental expenses of said commissioners, authorized by chapter sixty-four of the acts of the present year. [*Approved June 3, 1893.*

[Chap. 105.]

An Act to authorize officers qualified to serve criminal processes, and the commissioners on inland fisheries and game and their deputies, to make arrests without warrant for violation of fish and game laws.

Be it enacted, etc., as follows:

Section 1. All officers qualified to serve criminal processes, and the commissioners on inland fisheries and game and their deputies, are hereby authorized and empowered to arrest without warrant any person whom they shall find violating any of the fish or game laws: *provided, however*, that persons engaged in the business of regularly dealing in the buying and selling of game as an article of commerce shall not be arrested without warrant for having in possession or selling game at their usual places of business.

Section 2. This act shall take effect upon its passage. [*Approved March 17, 1893.*

[Chap. 172.]

An Act relating to the taking of scallops in the waters of the town of Fairhaven.

Be it enacted, etc., as follows:

Section 1. The selectmen of the town of Fairhaven may grant permits in writing to take scallops from the waters within the limits of the said town, in such quantities, at such time or times within one year, by such methods and under such regulations as may be expressed in their permit; and they may charge and receive therefor, in behalf of and for the use of said town, such sums as they may deem proper. But every inhabitant of the state may without such permit take scallops from the waters of the town, for the use of the family, from the first day of October to the first day of April, not exceeding in any week three bushels, including the shells.

Section 2. No person shall take any scallops from the waters of said town without a written permit from the selectmen thereof, except as provided in the preceding section. Whosoever violates the provisions of this act shall be punished by a fine of not less than twenty nor more than one hundred dollars, or by imprisonment in the house of correction not less than thirty days nor more than six months, or by both such fine and imprisonment. One half of the fine shall be paid to the complainant and the other half to the county within which the offence was committed.

Section 3. Nothing in this act shall be construed to affect any acts relating to oyster fishery, or to impair the private rights of any person, or in any way to limit or affect the provisions of law for the protection of fisheries other than scallop fisheries, or to permit the taking of scallops upon any oyster grounds or beds other than public grounds or beds.

Section 4. District courts and trial justices shall have concurrent jurisdiction with the superior court of all offences under this act.

Section 5. All acts and parts of acts inconsistent herewith are hereby repealed. [*Approved April 7, 1893.*

[Chap. 183.]

An Act relating to the taking of lobsters.

Be it enacted, etc., as follows:

Section 1. Whoever, not being at the time an inhabitant of this Commonwealth, sets or keeps or causes to be set or kept in any of the waters of this Commonwealth any pot, net or trap for the catching of lobsters, shall forfeit twenty dollars for each offence, one half to the use of the complainant and one half to the use of the Commonwealth.

Section 2. Chapter four hundred and three of the acts of the year eighteen hundred and ninety-two is hereby repealed. [*Approved April 11, 1893.*

[Chap. 201.]

An Act to remove the restrictions upon shad and alewife fishing in the Merrimac river below Chain bridge.

Be it enacted, etc., as follows:

Section 1. All provisions of law relative to the taking of shad or alewives in the Merrimac river, so far as they relate to the taking of said fish below the bridge known as Chain bridge, between the city of Newburyport and the town of Amesbury, or the

selling of fish taken in that part of said river below said bridge, are hereby repealed: *provided, however*, that whoever uses in that part of said river below Chain bridge a gill net of any description, or a sweep seine having a mesh which stretches less than two and a quarter inches, shall forfeit twenty-five dollars for each offence, and in addition shall forfeit the fish taken and the apparatus used.

SECTION 2. This act shall take effect upon its passage. [*Approved April 15, 1893.*

[CHAP. 205.]

AN ACT FOR THE BETTER PROTECTION OF THE FISHERIES OF BUZZARD'S BAY.

Be it enacted, etc., as follows:

SECTION 1. No traps, weirs, pounds, yards or stationary apparatus of any kind for the taking of fish, shall be set, used or maintained in the waters of Buzzard's bay, or any harbor, cove or bight thereof, and the mayor and aldermen of cities and the selectmen of towns bordering on said bay shall have no power or authority to grant licenses to construct fish weirs, or to set, use or maintain any other stationary apparatus for the taking of fish in the waters of said bay, or any harbor, cove or bight thereof; but nothing herein contained shall be construed to forbid or make unlawful the maintaining of traps, pounds or weirs under licenses heretofore granted in accordance with section seventy of chapter ninety-one of the Public Statutes, until the expiration of the terms for which said licenses were granted.

SECTION 2. Any person who shall set, use or maintain any trap, weir, pound, yard or other stationary apparatus, in violation of this act, shall be punished by a fine of not less than one hundred nor more than five hundred dollars, or by imprisonment not exceeding six months. [*Approved April 15, 1893.*

[CHAP. 255.]

AN ACT RELATING TO THE RIGHTS OF INHABITANTS OF ROCHESTER AND MATTAPOISETT TO TAKE FISH WITHIN THE LIMITS OF THE TOWN OF MARION.

Be it enacted, etc, as follows:

SECTION 1. Nothing in chapter one hundred and eighty-eight of the acts of the year eighteen hundred and ninety-two shall be construed to require that a citizen of Mattapoisett or Rochester must obtain a permit from the selectmen of the town of Marion for taking shellfish or scale fish in the shores, flats or waters within

the town of Marion, and any inhabitant of Mattapoisett or Rochester may take scale fish or shellfish in said shores, flats and waters by obtaining a license from the selectmen of their respective towns and paying therefor the same price as is paid by the inhabitants of the town of Marion to the selectmen of the town of Marion for similar licenses. The prices to be charged for said licenses shall be fixed by the selectmen of the towns of Marion, Rochester and Mattapoisett.

Section 2. Nothing contained in said chapter shall be construed to affect the right of any inhabitant of the Commonwealth to take eels, scale or shellfish from said shores, flats or waters, as provided by section sixty-eight of chapter ninety-one of the Public Statutes.

Section 3. This act shall take effect upon its passage. [*Approved April 24, 1893.*

[G.]

LOBSTER RETURNS.

1893.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters liberated.
W. H. Rowe,	Annisquam,	8	293	4
Joquin Perry, Marcus D. Moura, Manuel B. Silvia, Jose L. Alberto, Manuel Silvia, Joseph Rose, Frank P. Silvia, Frank Saffrain, Andrew Ferreira, Peter Silva, Antonia L. Perry, Antonio Francis, Antone P. Silvia, Joseph Rogers, Mathew Perry, J. K. Ferreira, M. E. Grace, Joseph Severino, J. C. Serrillia, Antone Silvia, A. F. Ferreira, Antone P. Silva, John M. Pinta,	Boston,	2,565	145,721	2,966
W. M. Hersey, C. C. Foster,	Beverly,	85	6,594	257
A. A. Nightingale, F. E. Leonard,	Bournedale,	110	8,762	272
D. B. Blackman, B. P. Williamson, Henry P. Taylor, Henry C. Phillips,	Brant Rock,	313	18,344	193

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters liberated.
W. F. Hitchins, W. R. Bloomer, J. D. Bloomer, J. F. Eldredge, F. Bloomer, W. A. Bloomer, H. F. Gould, S. Patterson, Otis Eldredge, E. Ryder, E. S. Gould, G. N. Eldredge, Thos. Holway, Oscar M. Gould, G. W. Bloomer,	Chatham,	899	25,244	746
F. N. Smith, F. Tilton, W. Tilton, L. E. Cottle, G. F. Tilton, Onslow Stuart, G. H. Butler, Rodney P. Reed, G. H. Butler, Jr.,	Chilmark,	219	9,376	1,091
W. H. Phinney, R. F. Swift, A. B. Rogers, L. S. Thurston, Geo. Atwell, H. A. Jordan, Chas. Boutin, Geo. Boutin, Chas. Rogers, B. F. Hodges,	Chiltonville,	436	35,751	725
C. C. Allen, A. Tilton & Co., H. J. Allen, H. J. Jamieson, A. G. Eisner, J. H. Tilton, T. H. Jones, R. W. Rotch, O. H. Stetson, Frank Peters, Richard Beebe,	Cuttyhunk,	444	29,882	1,414

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters liberated.
Hiram Jackson, D. P. Bosworth, G. H. Tilton,	Chuttyhunk,	444	29,882	1,414
J. F. Vandura, John H. Wilber, Warren White, Manuel S. Thomas, Manuel S. Almae, J. S. Enos, John S. Rebeiro, Wm. Deane, Manuel P. Valine, John Smith, Manuel E. Salvador, Michael Mannix, Robert Ainsley, Frank Salvador, Joseph Jason, Jr., Geo. E. Antone, Levi Cadoza,	Cohasset,	1,260	87,508	1,243
W. A. Gifford, C. F. Manchester, J. L. Gifford,	Dartmouth,	87	1,538	130
M. L. Howes, Wm. M. Stone,	Dennis,	45	2,198	510
J. M. Snow, W. E. Peterson, Geo. F. Freeman, F. E. Phillips, C. E. Peterson, F. E. Wardsworth, E. J. Smith, J. H. Mack, W. E. Freeman, O. C. Hunt, W. B. Morse, J. K. Burgess, Isaac Symnes,	So. Duxbury,	506	44,492	634
H. C. Hillman, John Bunker,	Edgartown,	65	4,353	316
W. A. Grew,	W. Falmouth,	10	394	35
C. H. Ryan,	Gay Head,	178	6,157	610

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters liberated.
J. H. Foster, M. P. Cooper, J. F. Cooper, B. J. Altaquin, S. J. Anthony, Frank Colvin, Francis Manning,	Gay Head,	178	6,157	610
Geo. Delano, Wm. H. Tallman, E. R. Lapham, A. L. Jackson, H. P. Tallman, E. R. Peterson, Thomas Pezzy, Lyman Sears, Chas Tallman, Wilfred Keene,	Green Harbor,	504	32,195	285
D. N. Mehlman, Melvin Parsons, Nelson Rowe, Joseph Parsons, E. T. Parsons, Albert Parsons, Joseph Douglass,	Gloucester,	410	41,585	717
Chas. Wilson, A. F. Pope, A. B. Cleverley, A. B. Mitchell, F. Smith, G. W. Keppens, John Reed, F. & R. James, J. C. Augustus, E. T. Pope, Daniel Souther, B. F. Pope, Andrew Galiano, Geo. L. Hatch, M McDonald, J. H. Smith,	Hull,	1,245	106,205	3,287
A. L. Fowler, B. G. Hinkson, Oscar Littlefield, Rust & Grant,	Ipswich,	35	3,025	143

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters liberated.
C. F. Stranger, E. A. Ranson,	Kingston,	120	6,300	50
J. W. Roberts, G. H. Woodbury, J. J. Woodbury, Elias Haraden, W. H. Sargent, A. W. Riley, Addison Woodbury,	Lanesville,	225	13,216	590
W. O. Stone & Co., A. G. Lamphier,	Lynn,	75	5,124	151
Geo. A. Manter, Henry Dodge, A. C. Sampson, D. W. Nightingale, Thos. Jordan, Rufus Ellis, Walter H. Chase, Wm. Harlow, W. J. Nightingale, Cornelius Briggs, Geo. F. Bennison, A. L. Holmes, Geo. H. Dixon, L. B. Briggs, Samuel Bartlett, W. H. Peterson, S. J. Valler, J. H. Valler, Frank R. Peterson, H. A. Thomas, S. B. Blackmer, G. W. Holmes, Stephen Holmes, J. F. Bartlett, F. B. Holmes,	Manomet,	1,201	109,007	2,576
James McNeary, Chandler Lewis, L. O. Sargent, James Powell, J. H. Dow, Thos. Dow,	Manchester,	175	7,659	164
David Worth, E. L. Story,	Magnolia,	285	19,282	1,094

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters liberated.
J. B. Knowlton, John Burnham, W. S. Douglass, H. K. Story, Chas. G. Story,	Magnolia,	285	19,282	1,094
Isaiah Walker,	Millbrook,	40	2,673	114
B. F. Stevens, S. O. Smith, Sans Standley, S. P. Stone, F. A. Frost, J. H. Atkins, John F. Adams, C. H. Smethmest, James S. Stone, J. W. Smethers, Wm. J. Dodd, R. T. Millett, J. W. Coffin, J. G. Stacy, S. B. Perkins, John W. Florence, James H. Magee, Wm. H. Tult, J. H. Innis,	Marblehead,	660	56,862	1,372
Lilburne Hiller, W. L. Richmond, J. J. Nye, F. A. Bowman,	Mattapoisett,	75	1,159	234
J. E. Nickerson, John Watkins, Geo. E. Thomas, Chas. Bates, A. & C. Brooks,	Nantucket,	160	7,841	182
G. W. Taylor, C. W. Taylor, Samuel Covell, C. E. Gove,	Nahant,	213	12,114	176
D. A. Atwood, John Johnson, C. H. Place,	Nantasket,	200	16,570	383
A. A. Pike,	Newburyport,	15	271	24

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters liberated.
F. H. Hayden,	Orleans,	30	1,476	154
James Deacon, E. W. Watson, J. P. Thurston, J. M. Watson, H. L. Sampson, A. M. Watson, A. M. Watson, Jr., J. B. Walker, S. P. Burgess, A. S. Hadaway,	Plymouth,	413	37,758	669
F. M. Bowley, J. C. Lenten, J. W. Savage, George Lewis, David Newcomb, W. H. Kinney, A. J. Emery,	Provincetown,	266	5,498	773
E. Lewis & Son, J. Kendall, Wm. Fears, Fred. Johnson, C. N. Morgan,	Pigeon Cove,	199	12,190	227
D. N. Rogers,	Quisett,	11	102	9
S. F. Norwood, Geo. E. Wendell, Amos Lufkin, S. G. Perkins, Harvey Pool,	Rockport,	255	26,711	1,071
C. L. Bartlett,	Rowley,	10	628	3
A. H. Gibbs, Oscar Gibbs, Ezra Pierce,	Sagamore,	69	3,046	303
John Barrey, G. F. Edson, Thos. Dwyer, Jesse Spooner, Daniel Ward, John Welch, James Doherty,	Scituate,	763	55,482	1,489

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters liberated.
Wm. Ward, R. G. T. Tillgreen, J. F. Cushman, A. E. White, Robert O'Hearne, E. P. Pratt, James Hughes, H. H. White, J. McCarty, Francis Mulkerne,	Scituate,	763	55,482	1,489
A. E. Reed, M. H. Vincent, E. A. Pool, H. W. Mayhew, A. A. Flanders, A. F. Pool, Amos Haskins,	Squibnocket,	108	7,289	364
Edward Marsh, J. F. Blaney, Wm. Stillman, A. G. Watts & Co., J. W. Kehoe, W. A. Jones, Nathaniel Pierce, W. B. Newcomb, T. E. Stone, S. Hammond & Co., G. A. R. Horton, Josiah Nickerson, H. E. Douglass, Geo. Martin, L. D. Woodbury,	Swampscott,	607	51,663	425
G. W. Berry, Jr., W. P. Foye, G. W. Berry, W. H. Lewis, T. F. Hogan, C. H. Berry, John Clark, H. G. Tucker,	Salem,	408	24,054	611
C. H. Collins, R. S. Lombard,	No. Truro,	75	720	87
J. A. Mayhew,	No. Tisbury,	137	3,820	674

Lobster Returns — Concluded.

PROPRIETOR.	TOWN.	No. of Traps used.	No. of Large Lobsters taken.	No. of Egg-bearing Lobsters liberated.
James R. Tillton, L. A. Rogers, G. H. Rogers, G. A. Rogers, Seth Look,	No. Tisbury,	137	3,820	674
H. W. McLellan, Herbert Crocker, A. O. Fisher, F. O. Vincent, M. F. Cleveland, Fred Weeks, Hiram Luce, Clarence Cleveland, Charles Foster,	Vineyard Haven,	113	4,609	533
Antone V. Corey, W. E. Wyman, J. B. Wyman, John Wardsworth, G. M. Wyman,	Winthrop,	342	31,994	598
T. B. Pierce, Frank Almy, H. F. Hilt, T. J. Brightman, G. A. Gifford,	Westport,	129	7,071	832
P. W. Wainwright, O. C. Grinnell, Jr, J. J. Veeder, Walter Nickerson, N. C. Phinney, F. R. Gifford, Frank Peterson, J. R. P. Purdum, O. C. Grinnell, P. M. Stuart, L. L. Adams, B. L. Gifford, J. F. Cook, Alfred Nickerson,	Wood's Holl,	191	7,428	1,181
Herbert Lovell,	Yarmouthport,	18	498	50
Total men, 371,		17,012	1,149,732	32,741

Comparison of Returns of Lobster Fisheries.

YEAR.	No. of Men.	No. of Traps.	No. of Large Lobsters.	No. of Egg-bearing Lobsters returned to the Water alive.
Increase of 1892 over 1891, .	–	–	–	–
Decrease of 1892 below 1891, .	15	1,384	185,027	12,743
Increase of 1893 over 1892, .	59	2,948	41,968	–
Decrease of 1893 below 1892, .	–	–	–	4,489

GILL AND SWEEP NETS.

1893.

PROPRIETOR.	TOWN.	Shad.	Alewives.	Sea Herring.	Menhaden.
Prince Freeman,	Barnstable,	–	–	1,198	–
Isaac N. Babbitt,	Berkley,	127	70,000	–	–
Niles Nelson,	Brewster,	–	159,064	11,550	–
J. H. Winslow,					
Thomas James,	Bay View,	–	–	34,346	–
J. D. Kelley,	Centerville,	–	–	132,400	–
C. E. Bearse,					
W. W. Hallett,					
Wm. C. Kelley,					
F. G. Kelley,					
Geo. W. Bloomer,	Chatham,	10	848	240	3,122
C. C. Nickerson,					
F. Bloomer,					
E. S. Gould,					
H. F. Gould,					
O. C. Eldredge,					
A. Atkins,					
W. A. Bloomer,					
C. D. Hammond,					
W. T. Hitchings,					
J. S. Ryder,					
Benj. Peterson,					
Robert Ainsley,	Cohasset,	–	–	6,079	–
J. S. Rebeiro,					
H. M. Smith Estate,	Chilmark,	–	32,503	–	–
W. S. Mayhew & Bro.,					
C. N. Simmons,	Dighton,	1,321	874,465	–	–
E. D. Perry,					
J. H. Hardy,					
A. J. Edwards,	Dennisport,	–	–	13	44
E. F. Robbins,					
F. R. Gifford,	Falmouth,				
Joseph Douglass,	Gloucester,	–	–	14,000	–
W. T. Tuttle,	Harwichport,				
John W. Roberts,	Lanesville,	–	–	213,985	–
J. J. Woodbury,					
A. Morgan,					
A. P. Coffin,	Muskeget,	–	–	–	–
J. H. Robbinson,	Mattapoisett,	–	217,510	–	–
Randall Hathaway,	Middleborough,	–	120,484	–	–
Henry Cotton,	Medford,	–	11,530	240,983	–
R. C. Glass,	Marblehead,	216	1,213	80,100	550
B. F. Stevens,					
J. T. Adams,					
S. B. Perkins,					
W. F. Ramsdell,					
W. I. Fisher,					
John Watkins,	Nantucket,	15	64	86	111
A. C. Manter,					
H. B. Cash,					
H. C. Orpin,					
G. G. Short,					
Richard Pierce,	Newburyport,	2,020	1,261,866	1,744,400	2,610,000
C. A. Caswell & Co.,					
Nester Thurlow,					
Jonah Newcomb,					
Geo. W. Freeman,					
John Dolan,					
A. A. Mayo,					
Jesse Ghen,					
J. W. Caton,	Provincetown,				
John Atkins,					
W. N. Elwell,					
Elisha Nickerson,					
J. H. Emery,					
C. H. Emery,					
R. W. Cook,					

GILL AND SWEEP NETS.

1893.

Striped Bass.	Scup.	Squeteague.	Kingfish.	Sea Bass.	Butterfish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
-	-	-	-	-	-	-	405	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	5,700	-	-	-	-	-	-
-	-	-	-	-	252	-	138	-	-	-	-	-	-
-	43	108	-	22	205	-	23	-	5,090	-	-	-	-
-	-	9	1	-	218	-	26,262	-	1,369	-	-	-	365
-	-	-	-	-	-	-	359	-	-	23	-	-	-
-	-	993	-	-	-	-	-	-	564	-	-	-	100
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	3	-	-	-	25	-	239	-	1,239	-	-	-	-
-	-	13	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	7,500	-	-	-	-	-	-
-	-	-	-	-	-	-	2,604	-	99	-	-	-	-
-	-	-	-	-	-	-	1,985	-	225	-	-	225	-
-	-	-	-	-	-	-	4,042	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	1,032	-	11,286	-	-	-	-	-	8,380
-	95	268	-	2	1,029	-	5,633	-	24,426	4	30	39	29
-	-	-	-	-	-	-	33	-	-	-	250	-	72,968

Gill and Sweep Nets — Concluded.

PROPRIETOR.	TOWN.	Shad.	Alewives.	Sea Herring.	Menhaden.
Reuben Ryder, S. F. Atwood, Zephaniah Rich, Luther P. Hatch, Geo. Crosby, W. S. Ellis, Isaiah Turner, W. C. Snow, S. G. Ewell, R. G. Tarrant, G. H. Lewis, E. Q. Weeks, J. H. Little, J. E. Weeks, Thos. Lopes, J. D. Smitch, Wm. Dyer, Geo. Lewis, W. H. Newcomb, Joseph R. Corea, M. S. Brown, H. L. Mayo, Isaac Tyler, R. O. Kelley, B. R. Kelley, A. J. Emery, D. W. Smith,	Provincetown,	667	955	357,035	2,400
Wm. Harlow, Cornelius Briggs, E. & J. C. Barnes,	Plymouth,	–	41,168	–	–
J. J. Pool, Murdock Matheson, J. W. Bushey, Joseph Brown, E. C. Parsons, Martin Currier, C. G. Parsons,	Pigeon Cove,	–	417	41,744	200
Gilbert Rich, C. W. Gott,	Rockport,	–	100	36,755	–
Gustavus King, G. B. & E. Williams,	Raynham,	656	295,310	–	–
Nathaniel Blanchard, Theophilus Brackett, G. A. R. Horton,	Swampscott,	–	–	44,885	45,450
Richard Hoar, James Edson, John Welch, Geo. F. Edson,	Scituate,	–	–	35,085	–
Samuel Hardy, C. W. Grozier, I. Atwood, J. A. Cobb, Geo. T. Lewis, B. F. Lombard, W. W. Freeman, R. S. Lombard,	Truro,	–	–	–	–
F. D. Grinnell, Sam'l A. Boan, J. M. Soule, Phillip S. Tripp, S. W. White, C. F. Hilt, J. J. Austin, A. G. Allen, Edward Snell,	Westport,	1	70,283	2,430	593
H. F. Atwood,	Wellfleet,	–	–	–	–
Herbert Lovell, Sylvanus Robbins, H. F. Crowell,	Yarmouth,	1	48,555	–	25
Totals, 136,		5,034	3,338,735	2,864,914	2,662,495

Gill and Sweep Nets — Concluded.

Striped Bass.	Scup.	Squeteague.	Kingfish.	Sea Bass.	Butterfish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
–	–	–	–	42	590	2	199,664	70	22,309	43	65,711	1	9,860
–	–	–	–	–	–	–	889	–	–	–	–	–	–
–	–	–	–	–	76	–	11,358	–	–	–	–	99	–
–	–	–	–	–	–	–	3,159	–	–	–	–	–	40,000
–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	3,958	–	–	–	121	18	17,866
–	–	–	–	–	414	–	2,612	1	–	–	–	–	100
–	–	–	–	–	39	–	11,725	–	1,053	5	–	–	–
1	–	–	–	–	–	–	–	–	–	–	515	–	25,912
–	–	–	–	–	–	–	417	–	–	–	–	–	–
–	–	–	–	–	–	–	1,410	–	7	–	–	–	–
1	141	1,391	1	66	3,880	2	301,401	71	56,381	75	66,627	382	175,850

POUNDS AND WEIRS.

1893.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.
Alaxander Sargent,	Bay View,	–	956	5,635	676,620	–	–
Thomas Neville, Wm. Elwell,	Beverly,	–	409	26,405	241,350	8,155	–
T. Ellis & Co., James Eldredge, F. D. Atwood,	Brewster,	3	81	1,200	95,223	2,800	14
S. W. Gould & Co., Geo. W. Crowell, Benj. Mallows, S. F. Bearse & Co., J. W. Eldredge, Reed, Loveland & Co.,	Chatham,	4	1,346	94,168	630,497	34,655	11
H. O. Pool & Co., R. Flanders and Co., Daniel Vincent,	Chilmark,	–	47	27,899	102,025	10,802	1
W. S. Mathews, E. D. Howland, Nicholas Priaulx, Geo. Priaulx, Benj. Queriple, Tallman & Gifford, J. F. Briggs, C. F. & J. Manchester, Wail & Smith, Snell & Butts, A. R. Reed, Geo. A. Snell,	So. Dartmouth,	–	431	229,599	9,933	57,309	259
Thomas Howes, A. T. Chase, Zenas H. Baker, Thatcher Kelley,	Dennis,	2	481	11,039	337,725	59,861	–
Alonzo K. Higgins, Peter Higgins, R. H. Horton, Wm. H. Nickerson,	Eastham,	–	38	20,633	173,502	274	–
H. J. Allen, Henry Daggett, J. P. Holmes, A. B. Veeder & Co., John Manley, Wm. Shepard & Co., Peter B. Davis, C. B. Coombes & Co., C. C. Church & Co.,	Gosnold,	–	16	11,650	27	8,368	3
C. W. Tibbets, Douglass & Hodgkins, Benj. F. Brazier, Joseph Parsons,	Gloucester,	1	166	125,555	55,360	5,330	1
Wm. L. Pease & Co.,	Gay Head,	–	–	800	–	–	1
D. F. Weeks, Elisha H. Bearse,	Harwichport,	–	491	13,495	39,700	40,529	1
Thomas Weston,	Hingham,	–	–	6	–	–	–

POUNDS AND WEIRS.

1893.

Scup.	Squeteague.	Kingfish.	Sea Bass.	Butterfish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
–	–	–	–	3,575	–	30,405	–	2,596	28	3,286	703	6,880
4	–	–	–	3,719	–	24,167	–	–	63	283	9,450	133
–	–	–	–	–	2	11,514	–	1,188	623	1,684	–	12
52,934	1,934	4	103	13,855	2	41,563	–	6	1,996	9,223	74,726	639
217,048	21,123	16	6,272	10,709	110	88,974	2	78	511	5,429	75,922	18
161,807	86,130	181	681	91,257	77	17,521	–	426	12,363	97,783	80,579	17,184
236	416	2	–	239	16	23,360	1	124	284	1,523	146,275	62,298
1	–	–	–	7,724	–	15,726	–	5,294	253	7,590	590	2,544
1,128,267	86,426	–	68,748	144,557	52	4,001	–	38	737	4,814	40,065	397,330
1	–	–	–	315	–	10,977	–	–	1	50	150	–
71,809	4,811	–	1,642	8,000	4	21,228	–	–	–	535	–	–
14,896	4,984	4	20	28,020	20	70,417	1	441	1,518	5,116	47,645	11,304
–	–	–	–	–	–	–	–	–	–	–	–	354

Pounds and Weirs — Concluded.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.
F. A. Tarr, Alphonzo Tarr,	Magnolia,	–	2,501	13,500	709,025	17,900	–
E. W. Heath, Jones Brothers,	Manchester,	–	–	23,476	450,481	3,430	–
Chas. E. Rogers,	Marblehead,	–	–	–	–	–	–
Stephen Holmes,	Manomet,	–	–	4	2	4	–
A. L. Walker,	Orleans,	–	–	–	172	–	–
I. B. Lewis, J. A. Lewis, H. J. Lewis, T. K. Paine, J. C. P. Harvender, Solomon Bangs, I. W. Lewis,	Provincetown,	–	4,635	31,600	1,952,189	284,237	–
Avard L. Smith, Robert S Perry, Isaiah Spindell & Co.,	Sandwich,	–	976	4,000	6,900	55,530	–
A. F. Nesbitt, Chas. B. Jones,	Swampscott,	–	–	–	509,554	–	–
Bartimus Luce,	Squibnocket,	–	6	1,940	33,904	250	–
F. W. Luther,	Somerset,	–	–	–	–	–	–
Warren Cove Weir Co.,	Sagamore,	–	–	–	28,400	–	–
H. N. Luce, O. S. Daggett, Jason Luce & Co., Edward Cottle,	Tisbury,	2	468	31,483	21,829	2,317	205
N. B. Rich, Wm. F. Baker, S. B. Rich, D. B. Rich, P. L. Paine, Atkin Hughes, C. H. Collins, L. B. Atwood, David Blatchford, R. A. Rich,	Truro,	–	264	66,902	10,563,354	86,780	–
W. D. Cleveland, O. D. Bradley, C. B. Cleveland,	Vineyard Haven,	–	1	49,385	96	1,860	18
Isaiah Spindell, J. J. Veeder, John Rogers, P. M. Stuart,	Wood's Holl,	–	35	25,867	3,010	910,334	2
Theadore Brown, Wm. P. Doane, N. B. Rich,	Wellfleet,	–	92	600	254,500	23,000	–
Roland Kelley,	Yarmouth,	–	–	–	–	1,300	45
Totals, 99,		12	13,440	816,841	16,895,378	1,615,025	561

Pounds and Weirs — Concluded.

Scup.	Squeteague.	Kingfish.	Sea Bass.	Butterfish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
–	–	–	–	2,084	–	63,736	–	12	–	–	4,200	–
–	–	–	–	1,892	–	16,265	–	–	7	–	–	–
–	–	–	–	1,474	–	11,526	–	–	–	–	–	–
–	–	–	–	3	–	140	–	–	–	–	–	160
–	–	–	–	23,000	–	2,655	–	547	15	–	7,000	1
41	4	–	–	8,207	14	87,410	2,000	3	280	47,826	479,613	50,720
9	–	–	–	8,450	–	422,848	–	207	525	440	62,950	25
–	–	–	–	800	–	42,457	–	–	–	–	–	1,000
55,921	15,987	5	4,501	8,458	37	50,903	–	91	83	4,504	5,466	–
–	–	–	–	–	–	–	–	–	–	–	–	67,129
–	–	–	–	–	–	93,383	–	–	3	–	–	–
194,249	18,276	251	2,689	8,233	210	53,055	1	699	1,348	11,008	26,378	
19	2	–	3	121,101	58	1,030,411	3	1,676	832	50,765	1,285,776	31,168
86,600	8,839	–	508	49,250	26	4,779	–	22	40	7,197	179,000	617
232,564	55,964	57	5,121	96,499	128	7,985	3	206	9,300	17,761	90,635	1,502
–	–	–	–	35,038	1	32,667	–	2,118	4,084	7,305	26,000	–
–	–	–	–	–	–	3,612	–	70	–	–	–	–
2,216,406	304,896	520	90,288	676,459	757	2,283,685	2,011	15,842	34,894	284,122	2,643,123	651,018

Comparison of Returns for the Years 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891 and 1892.

Year.	Fisheries. Kind.	No.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
1882,	Pounds and weirs,	85	27,769	1,420,919	1,201,449	8,102	4,219	1,991,480	67,266	3,289,512	310	133,805	40,512	114,843	4,016	-
1883,	" "	87	5,994	1,250,263	339,116	4,048,022	2,876	1,848,583	92,671	4,756,490	246	60,182	35,481	184,387	5,361	-
1884,	" "	93	5,392	715,886	2,806,203	308,381	6,950	1,641,129	74,826	1,440,486	99	109,694	23,929	288,930	33,980	-
1885,	" "	80	18,088	1,066,148	6,564,619	6,255	1,365	1,240,630	17,746	2,643,190	24	32,575	47,231	317,082	7,741	128,698
1886,	" "	58	15,874	1,012,802	1,364,684	48,910	2,412	1,966,243	3,226	1,290,466	20	17,315	47,490	261,595	11,570	572,334
1887,	" "	62	14,044	1,453,820	1,713,846	127,951	1,233	2,153,504	15,742	1,069,609	109	44,204	89,075	304,492	7,615	812,810
1888,	" "	83	50,057	1,054,607	6,665,698	1,202,777	2,455	1,448,451	127,602	2,877,768	115	38,376	63,214	358,917	10,805	2,716,892
1889,	" "	103	25,591	1,417,950	17,000,308	1,203,669	4,924	1,331,673	36,043	825,152	524	17,287	69,719	289,993	20,163	1,359,924
1890,	" "	88	22,961	1,198,561	4,432,690	2,911,970	5,302	354,423	43,988	1,297,264	1,242	60,633	25,637	210,476	9,180	958,872
1891,	" "	87	26,587	2,039,107	10,643,504	1,976,856	1,413	3,160,446	98,749	3,045,814	323	28,355	33,476	389,416	17,511	569,794
1892,	" "	83	14,658	1,031,160	15,739,505	124,917	1,410	2,421,985	70,085	4,706,233	47	16,296	45,881	346,772	8,069	1,588,890
1893,	" "	99	13,440	816,841	16,895,378	1,615,025	561	2,216,406	304,896	2,283,685	2,011	15,842	34,894	284,122	2,643,123	1,419,042
1888,	Traps, fykes and irregular returns,	8	-	5,150	252,685	7,750	-	-	-	288,466	-	-	-	3,123	3,544	-
1889,	Traps, fykes and irregular returns,	15	2,994	89,516	1,212,942	184,239	64	86	54	64,938	13	2,690	339	2,246	2,060	76,073
1882,	Gill nets and sea seines,	133	1,738	424,630	310,611	633	1,427	99,046	4,205	587,087	87	191,668	6,245	33,487	3,033	-
1883,	" "	112	26	41,996	79,689	937,627	838	6,254	1,102	392,535	4	131,815	966	12,681	1,755	-
1884,	" "	85	6,544	67,312	541,689	1,526	632	7,855	3,254	216,829	6	136,068	1,578	19,031	2,426	-
1885,	" "	78	444	117,674	82,151	9,546	601	26,854	1,656	183,156	1	101,371	233	30,948	967	5,454
1886,	" "	49	22	397,727	151,782	311	1,524	13,019	42	75,463	9	32,343	1,039	14,592	21,670	17,326
1887,	" "	35	801	347,109	779,211	57	601	676	2,586	177,401	3	22,018	457	14,206	30,416	4,708
1888,	" "	142	92,010	468,934	734,374	94,310	1,349	7,704	2,027	633,627	2,172	199,546	1,314	30,738	18,701	52,049
1889,	" "	208	4,533	401,445	357,054	202,094	1,421	4,062	4,545	271,017	157	55,718	2,576	35,745	199,360	80,008
1890,	" "	183	1,448	174,213	686,948	239,474	1,980	2,289	1,141	209,863	1,488	181,401	754	29,950	81,979	94,448
1891,	" "	94	8,308	161,363	315,641	43,624	229	489	535	163,750	89	55,254	80	26,824	10,336	24,324
1892,	" "	91	214	444,024	967,567	1,827	422	1,938	260	688,119	1	48,100	59	75,614	14,220	23,711
1893,	" "	121	910	291,481	1,120,514	52,495	1	141	1,391	301,368	71	56,381	75	66,377	382	106,561
1882,	Connecticut River seines,	3	2,770	-	-	-	-	-	-	-	-	-	-	-	-	-
1883,	" " "	4	3,591	-	-	-	-	-	-	-	-	-	-	-	-	-
1884,	" " "	2	1,593	-	-	-	-	-	-	-	-	-	-	-	-	-

| | | |

Comparison of Returns for the Years 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891 and 1892.

Year.	Fisheries. Kind.	No.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
1893, .	Other fresh-water seines, .	5	-	545,613	-	-	-	-	-	-	-	-	-	-	-	-
1882, .	Total returns, . . .	261	44,734	4,446,280	1,512,060	8,735	5,929	2,090,526	71,471	3,876,599	397	325,473	46,757	148,330	7,049	-
1883, .	" " . . .	239	15,160	4,178,682	418,605	4,985,649	5,080	1,854,837	93,773	5,149,025	250	191,997	36,807	197,068	7,116	-
1884, .	" " . . .	205	17,699	2,353,781	3,347,892	309,907	7,582	1,648,984	78,080	1,657,315	105	245,762	30,507	307,971	36,406	-
1885, .	" " . . .	184	25,347	3,747,750	6,546,770	15,801	1,881	1,267,484	19,402	2,826,346	25	133,946	47,464	348,030	8,708	134,152
1886, .	" " . . .	124	19,466	3,183,741	1,520,466	49,221	3,936	1,979,262	3,268	1,395,850	29	55,031	48,678	276,187	58,872	590,659
1887, .	" " . . .	112	19,292	3,108,642	2,345,632	97,510	1,833	2,144,973	18,357	1,057,565	112	66,422	89,065	320,220	50,071	818,639
1888, .	" " . . .	264	149,200	3,767,929	7,669,493	1,556,036	3,275	1,672,610	129,850	3,801,393	2,489	240,874	70,523	432,710	40,634	2,875,420
1889, .	" " . . .	352	40,461	3,617,929	14,919,159	4,326,352	6,414	1,335,821	40,642	1,161,107	694	75,695	72,634	327,984	221,583	2,015,993
1890, .	" " . . .	291	29,303	3,038,920	5,482,120	6,931,804	7,282	356,712	45,130	1,507,617	2,730	242,034	26,391	240,920	102,789	1,112,320
1891, .	" " . . .	202	37,346	4,954,822	11,108,745	4,500,052	1,642	3,160,935	99,284	3,209,564	412	83,609	33,556	416,240	83,977	594,118
1892, .	" " . . .	193	16,928	3,179,923	17,241,072	126,744	2,273	2,423,923	70,345	5,394,352	48	64,396	45,940	423,541	38,194	1,620,997
1893, .	" " . . .	235	18,474	4,155,576	19,760,292	4,277,520	562	2,216,547	306,287	2,585,086	2,082	72,223	34,969	350,749	2,643,505	1,598,571
	Increase of 1885 over 1884, .	-	7,648	1,393,969	3,198,878	-	-	-	-	1,169,031	-	-	16,957	40,059	-	-
	Decrease of 1885 below 1884,	21	-	-	-	294,106	5,701	381,500	58,678	-	80	111,816	-	-	27,698	-
	Increase of 1886 over 1885, .	-	-	-	-	33,420	2,005	711,778	-	-	4	-	1,214	-	50,164	456,507
	Decrease of 1886 below 1885,	60	5,881	564,009	5,026,304	-	-	-	16,134	1,430,496	-	78,915	-	71,843	-	-
	Increase of 1887 over 1886, .	-	-	-	825,166	48,289	-	165,711	15,089	-	83	11,391	40,387	44,033	-	227,980
	Decrease of 1887 below 1886,	12	174	75,099	-	-	2,103	-	-	338,285	-	-	-	-	8,801	-
	Increase of 1888 over 1887, .	152	129,908	642,287	5,323,861	1,438,526	1,442	-	111,493	2,743,828	2,377	174,452	-	112,490	-	2,556,781
	Decrease of 1888 below 1887,	-	-	-	-	-	-	472,363	-	-	-	-	18,542	-	9,437	-

	Increase of 1889 over 1888, .	88	–	–	12,249,666	2,790,316	3,139	–	–	–	–	–	2,111	–	180,949	–
	Decrease of 1889 below 1888,	–	108,739	150,000	–	–	–	336,789	89,208	2,640,286	1,795	165,179	–	104,726	–	859,427
	Increase of 1890 over 1889, .	–	–	–	–	2,605,452	868	–	4,488	346,510	2,036	166,339	–	–	–	–
	Decrease of 1890 below 1889,	61	11,168	579,009	14,437,039	–	–	979,109	–	–	–	–	46,243	87,064	118,794	903,673
	Increase of 1891 over 1890, .	–	–	1,915,902	5,626,625	–	–	2,804,223	53,754	1,701,947	–	–	7,165	175,320	–	–
	Decrease of 1891 below 1890,	89	2,492	–	–	2,431,752	5,640	–	–	–	2,318	158,425	–	–	18,812	518,202
	Increase of 1892 over 1891, .	–	–	–	6,132,327	–	631	–	–	2,184,788	–	–	12,384	7,301	–	1,026,879
	Decrease of 1892 below 1891,	9	20,418	1,774,899	–	4,373,252	–	737,012	28,939	–	364	19,212	–	–	45,783	–
	Increase of 1893 over 1892, .	42	1,546	975,653	2,519,220	4,150,776	–	–	235,942	–	2,034	7,827	–	–	297,805	–
	Decrease of 1893 below 1892,	–	–	–	–	–	1,711	207,376	–	2,809,266	–	–	10,971	72,792	–	22,426

SUPERINTENDENT'S DWELLING — Sutton, Mass.

STATE HATCHERY — Sutton, Mass.

PUBLIC DOCUMENT . . . . . No. 25.

REPORT OF THE COMMISSIONERS

ON

INLAND FISHERIES AND GAME

FOR THE

YEAR ENDING DECEMBER 31, 1894.

BOSTON:
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Commonwealth of Massachusetts.

To His Excellency the Governor and Honorable Council.

The Commissioners on Inland Fisheries and Game respectfully present their twenty-ninth annual report.

Fishways.

All the fishways in the State are, so far as we know, in good condition. The one over the Lawrence dam was repaired last summer, and may require some additional work on it next year.

Three years ago complaints were made by the fishermen on the lower part of Taunton Great River that the fishways at Middleborough were so defective that the fish did not pass over. That they honestly believed this to be true there is no doubt, for subsequently some of them appeared on the ground with nets, intending to catch the fish and put them into the pond above the dam, but were prevented by Deputy James A. Burgess, who had charge of the fishway. The complaining fishermen asked for an investigation by the commissioners, which was granted. The testimony of Mr. Burgess and the fish warden showed that the fish had gone freely over the fishway, and that large schools of young alewives were seen going down in August. If the complaints of the fishermen had been well grounded there would have been a scarcity of fish this year, as it requires three years for the young alewives to return as full-grown fish.

The following letter shows the working of the fishway, the catch of fish and consequent change of feeling at Middleborough: —

Middleborough, November, 1894.

E. A. Brackett.

Dear Sir: — I delayed answering your last letter to see if I could get the exact number of fish caught in this town during the current year, but I failed to do it. The number, as near as I can get

it, is two hundred and thirty-two thousand three hundred and some odd. They did not know exactly, as the fish were taken by two parties.

As regards my services as your deputy, I have this to say: that it has been clearly demonstrated to the people of Middleborough that the fishway at Sherman's dam has worked to the satisfaction of every one, and is in good repair.

You will see by the above figures that we have caught nearly one hundred thousand more herring than have been caught annually for the last twenty-five years, and the return of the little herring from the spawning ground has been greater than ever before in the same time. On the whole, I think it has been a very quiet year, as far as growling and grumbling have been concerned.

It seems to me that the Angel of Peace must have hovered and lingered long over the waters of Taunton and Nemasket rivers and their tributaries.

Yours respectfully, JAMES A. BURGESS,
Deputy Commissioner.

The catch on the lower part of the river has been quite remarkable, the whole number taken in the Taunton and Nemasket rivers this year being 2,047,384; and yet one of the fishermen is not satisfied, but thinks there ought to be more fish in the river, — and he is right. The trouble is not in the fishway, however, but in the wholesale destruction of the breeding fish, not enough being allowed to run up into the pond to deposit spawn. Especially is this true at Middleborough.

Migratory fish are intermittent in their movements, there being some days when no fish are running. At Middleborough, on days allowed for fishing, by the system they have adopted not a fish escapes their nets; and if, on the days the fish are permitted to pass, there does not happen to be a good run, but few will reach the pond.

It is not an exaggeration to state that the pond above Sherman's dam would sustain twenty times the number of young alewives that are usually bred there, and that under reasonable arrangements, without any additional expense, the river could be made to produce five times the number of alewives and shad that it now does.

The commissioners, in their earnest efforts to help the fishermen, are constantly reminded of that extreme selfishness that

seems to blind them to anything beyond their immediate wants. If the fishermen would pool their issues and submit to reasonable regulations, they would in a few years be able to take all the fish they could handle.

Merrimac River.

Owing to the low stage of water during the summer, the run of fish over the Lawrence fishway has been less, with the exception of lamprey eels, than last year.

We regret to learn that, in consequence of a new dam built across the river at Sewell's Falls, the salmon, as well as other fish, were prevented from reaching their spawning grounds. The owners neglected to build a suitable fishway, and the State of New Hampshire has entered suit against the company to compel an enforcement of the law.

At the last session of the Legislature a bill was presented abolishing all laws for the protection of fish on a part of the Merrimac River. After a careful hearing before the committee on fish and game, it was unanimously reported that it ought not to pass. In place of the report a bill was substituted, it was carried through the Legislature, and the public rights were saved only by the timely veto of His Excellency the Governor. There never was any legitimate reason for passing this bill. The fishermen now have four days each week to fish in the Merrimac, from the first of March to the first of June. This is virtually a law of their own making, and none of the fishermen have complained of it. The bill introduced last year was in direct opposition to the long-established policy of the State, and in violation of the comity due to the State of New Hampshire.

Brook Trout.

In our last report we called attention to the planting of yearling trout, citing important reasons why the State Commission ought not to adopt this method of stocking the wild streams with fish. We were led to this decision in consequence of constant applications for yearlings instead of fry. A number of persons who received fry had, unknown to the commis-

sioners, placed them in small ponds to rear and turn into the brooks in the fall. As might have been expected, these fish were lost. Rearing young trout is by no means an easy matter, and very few fish culturists are even fairly successful with them. At Sutton, where it is necessary to raise them for breeders, under the best instructions, the superintendent has not been able to raise more than fifteen per cent. They disappeared, how or when he could not tell. He felt sure that they did not escape from the pond. A larger per cent. of yearlings has been saved from the fry planted in the brook above and below the hatchery.

We understand that the United States Commission is making extensive experiments in raising yearlings for stocking purposes. There is, and can be, no objection to trying anything that may lead to success. Our own experience for the last twenty-five years is decidedly opposed to this method of stocking, with either trout or salmon, and we shall watch with interest the result of their efforts. We beg leave to say, however, that no conclusion can be accepted that does not take into careful consideration the cost of raising and of transporting, and the almost certain loss of the instincts of self-preservation, which is usual in hand-fed fish. Should this experiment fail, the United States Commission can fall back on its splendid record of stocking California waters with shad, where 834,000 shad fry, so small as to be almost imperceptible to the naked eye, were transported across the continent and planted in streams running into the Pacific. The California Commissioners state in their last report that shad are now so plenty that dealers have found it necessary to limit the fishermen in the catch, in order to prevent a glut in the market.

It is quite evident that a stream that requires to be stocked with yearlings would cease to be a trout stream as soon as the planted fish were caught out, for the conditions that would render the planting of fry ineffectual would also destroy the product of the planted fish.

Of the eggs received from the joint hatchery, Plymouth, N. H., there were hatched and distributed 350,000 young fry (list, Appendix C).

The hatchery at Sutton being completed, we hope to have a larger number of fry the coming season than heretofore. The

following report from the superintendent will give some idea of the work done there during the past year: —

WILKINSONVILLE (SUTTON), Nov. 25, 1894.

Commissioners of Fisheries and Game.

GENTLEMEN: — In compliance with your request, I herewith make the following report of labor performed at the hatchery at Sutton.

Early in the spring it was necessary to make runs to receive the young fry from the hatchery, to be raised for breeders. I therefore made one in front of the hatchery, 70 feet long by 3 feet wide and 18 inches deep, and one in the rear 80 feet long, with other dimensions the same as the first, with covers to keep out sun, leaves, etc. Made a ditch on the north-east line, 200 feet long, 7 feet wide at top by 2 feet at bottom, and 3 feet deep, the material thrown out being used for grading the uneven ground adjoining. Put in cement foundation for floor for the twelve-foot addition to the hatchery, with the necessary work for the foundation for chimney and heater. There has been an addition of eighteen new hatching troughs, painted inside and out with two coats, which now give room for about 1,500,000 eggs. It was necessary to take an additional supply of water into the hatchery from a spring above the pond, which was done by laying 250 feet of inch-and-a-quarter pipe, connecting with the two-inch pipe from the spring on the opposite side of the pond, thus giving us a sufficient supply. Put in stone foundation for building for storehouse, workshop, etc., 16 by 24 feet, with eight-foot annex for carriage house. All spare time has been devoted to clearing the grounds of brush, leaves, stumps, etc., and grading and seeding the same. The grading around the house was done with such material as was at hand, and an outlay of twelve dollars for one hundred loads of loam, which was absolutely necessary to make a good foundation for seeding and preparing the grounds for future improvements.

I have prepared food and fed all the fish, for the distance of a half mile on the stream every day, and those in the pond and runs twice daily.

As near as can be estimated, we have at present 1,500 adult trout, 15,000 yearlings, and have taken, to date, 400,000 eggs.

Respectfully submitted, WM. LAWRENCE,
Superintendent Sutton Hatchery.

A bill allowing the sale of artificially reared trout at times when the wild trout are prohibited by law has been before the Legislature for three years; one year it failed to pass the Senate, and twice it was vetoed. The history of legislation does not

furnish an instance of more persistent effort to pass a law which, if enacted, would be of no benefit to any one, while its effect upon the trout in the wild streams would be disastrous.

Lake Superior or Salmon Trout (*Salvelinus Namaycush*).

Through the kindness of Colonel McDonald, United States Commissioner of Fisheries, we received 100,000 eggs of this fish last winter, which were hatched and planted in some of the great ponds of the State (see Appendix C). The flesh of this trout is salmon color, and they sometimes grow to the weight of twenty pounds. They are abundant in all the Great Lakes, and are also numerous in New Found Lake, N. H., where it is said that they were introduced by the commissioners in 1871. In October millions of spawn can be taken there at very little expense. We applied to the New Hampshire Commission for permission to collect some of these eggs to hatch and plant in Massachusetts waters, but for some unexplained reason the request was not granted, and we fell back on the well-known generosity of the United States Commissioner, and on November 22 we received from him another allotment of 100,000 eggs, the fry from which will be ready to plant early in the spring.

We desire to say to all applicants that these fish require deep water, with more or less rocky or ledgy bottom.

Carp (*Cyprinus Carpio*).

The carp has evidently come to stay; by no means can it be eradicated from our waters. Its increase is phenomenal, especially in the Great Lakes, where tons of them are taken and sold, at wholesale, at about the same price as codfish.

The following extracts from the "Fishing Gazette" would indicate that they are becoming equally plenty in Southern waters: —

German Carp in Carolina Waters.

The German carp is here to stay. Within six or eight years he has multiplied to an amazing extent, says the Charleston "News and Courier." His lordship of the Santee and its branches disputes with the redhorse, the catfish and the mud-fish; and since his increase is wonderfully rapid, he bids fair in a short time to make himself more

prominent than any of his rivals. It is very probable, too, that the freedom of running water will gradually improve his quality, if not his size.

The carp has been praised beyond his deserts, and he has been also much maligned. He is not the finest fish that swims, though Izaak Walton, gallantly reminizing him, calls him "the queen of rivers; a stately, a good and a very subtle fish." In the Charleston market buyers would pass him by on the other side, and further inland he is regarded as decidedly inferior to many small pan fish, and to the trout, which, by the way, is no trout at all, but a black bass. But he is superior to the catfish, the mud-fish, and, perhaps, the jack. After all is said, however, the carp's worth remains, like the voter's choice for governor or senator, a matter of taste. A great deal depends on the cook.

Those who have been in the habit of supplying their tables with haddock that has been kept frozen for months in the store-house, until it has become as flavorless as basswood chips, ought not to complain of carp.

Owing to the abundance of sea fish, but little attention has been paid to the cultivation of carp in the eastern States. Six years ago a few were put into the Abbajona River, and last spring one was taken and exhibited in the fish market at Winchester, weighing fourteen pounds.

The following applications were filled this fall: —

J. R. Deane, M. D., ...	Newton Highlands.
A. Hastings, ...	Berlin.
A. F. Whitin, ...	Whitinsville.
J. W. Fairbanks, ...	Westborough.

There were several other applications which could not be filled, owing to a mishap. The fish were brought from the breeding pond and placed in the hatchery for distribution. Unfortunately a mink or some other animal dug into the house and destroyed the fish. Efforts will be made in the spring to supply these orders, or, failing in that, the list will be carried over to next fall.

White Perch (*Roccus Americanus*).

This excellent fish is found all along the coast from South Carolina to Nova Scotia, and thrives best in waters connected with the sea, where in brackish water it finds an abundance of

food. It also does well in inland waters, where it may be said to be landlocked. It spawns in the latter part of May and first of June, always seeking fresh water for that purpose.

The average length of the adult fish is about eight inches, and average weight about nine ounces, although much larger specimens are frequently met with. We have seen several that weighed two and one-half pounds, and one two and three-fourths pounds.

They will live in all our fresh-water ponds, but the size and number will depend upon the amount of feed they find. They are gregarious (except during the spawning season), running in schools, and may be abundant in a pond without being of much benefit to the angler, unless he understands their habits and the successful method of fishing for them.

Within a few years perch have become popular, commanding a high price in all our markets, the supply coming mainly from ponds containing more or less brackish water. They are taken in nets during the winter, the large ones sorted out and the small ones returned to the water alive.

There is as yet no known method of artificially propagating these fish, and all applications must be supplied from ponds on the Cape, which is attended by considerable expense.

The following applicants were supplied this fall with from fifty to sixty white perch of good size, which, under favorable circumstances, would be sufficient to stock the waters where they were placed : —

A. F. Whitin, pond in Northbridge.
M. Edwards, pond in Milford.
E. D. Goodell, pond in Brookfield.
G. W. Holbrook, pond in Wellfleet.
A. C. Moore, pond in Sturbridge.
J. J. Smith, pond in Westford.
C. M. Pratt, pond in Groton.
G. E Ricker, pond in Merrimac.
J. J. Prevaux, pond in Amesbury.
T. C. Lovell, Fitchburg Water Works.

Birds and Game.

Permits to collect birds and eggs for scientific and educational purposes were granted during the year to the following persons : —

H. W. Marshall,	Quincy.
C. F. Batchelder,	Cambridge.
Owen Durfee,	Fall River.
F. Osgood,	Boston.

G. H. McKay, . . .	Boston.
A. C. Bent, . . .	Taunton.
R. O. Morris, . . .	Springfield.
W. W. Calborn, . . .	Springfield.
A. P. Moore, . . .	South Natick.
H. W. Hastings, . . .	Berlin.
H. B. Long, . . .	Worcester Natural History Society.
H. Norris, Jr., . . .	Cottage City.
A. S. Guild, . . .	Lowell.
W. P. Hadley, . . .	Arlington Heights.
G. R. Blinn, . . .	Bradford Natural History Society.
Dr. C. F. Dodge, . .	Clark's University, Worcester.
State Agricultural College,	Amherst.
C. S. Fiske, . . .	Cambridge.

It is gratifying to know that the fashion of decorating bonnets with stuffed skins of song birds has been mostly abandoned, and imitations, ingeniously made from dyed feathers of domestic fowls, substituted. This change has not come any too soon, for many of the bright-plumaged birds have become almost extinct, and what few remain may be driven out by that unmitigated pest, the English sparrow. Either there should be a bounty on these sparrows, or the law which was passed a few years ago, authorizing city and town officers to destroy them, should be made mandatory. If there is not some check put on their increase many crops will be rendered of no value.

Game.

Woodcock have been very scarce; in places where they have been plenty, not a bird is now to be found. Quail, under the protection of the law passed by the last Legislature, have increased so that it is not unusual this fall to find flocks of from thirty to sixty birds. If they survive the winter they will be abundant next year. Ruffed grouse are disappearing from the State. The reports from our deputies from all parts of the State show conclusively that unless something is done for their protection there will soon be none to protect.

In the Appendix will be found returns from our deputies, covering a large part of the State. As they were not written for publication, extracts from a part of them only will be given. Most of these deputies have served without pay, and were appointed at the request of leading men, or the fish and

game clubs. The efficiency and energy with which some of them have done their work show that it would be easy to find capable officers for the protection of fish and game at a moderate compensation.

We recommend that the open season for all inland game be from October 1 to December 1. This gives two months of shooting, which is all our depleted game will stand, if not more. Such a law would be more easily enforced than the present one, and no true sportsman would object to the change, or to some more effectual law for the better protection of our game birds.

Lobsters.

Wood's Holl, Mass., July 19, 1894.

E. A. Brackett, Esq.,

Chairman Board of Commissioners of Fish and Game, Winchester, Mass.

Dear Sir: — At the request of Colonel McDonald, United States Commissioner of Fisheries, I received an appointment as deputy (signed by you Jan. 22, 1894), to hold good until Jan. 15, 1895, unless sooner revoked. This appointment carried with it the right to purchase egg lobsters for use at the United States Commission Station, Wood's Holl, Mass., with the understanding that "said lobsters, after being deprived of their eggs, shall be returned to the water alive." I beg to make the following statement: —

Collected 4,026 egg-bearing lobsters, which yielded 97,635,000 eggs and produced 69,066,000 fry, or 70 per cent. of all eggs taken. This was not the per cent. hatched, however, as fourteen and one half millions of the eggs received were bad (all of these were turned out the third day after received). The true per cent. hatched, of the good eggs, was 83.3. Fry liberated in Vineyard Sound and Buzzard's Bay twelve to twenty-four hours after hatching.

The following places furnished brood lobsters: —

Cuttyhunk,	1,283	Penikese,	229
Menemsha Bight,	189	Nashawena,	13
Wood's Holl,	799		
New Bedford,	1,342	Total,	4,026
Robinson's Hole,	171		

I desire to state that all the lobsters furnished from New Bedford were caught some eight to twelve miles off No Man's Land, and brought to New Bedford in smacks. All the lobsters were returned to the water after the eggs were removed, care being taken to place them where there were no pots. Most were put in the deep water of the sound.

Very respectfully,

John Maxwell,
Superintendent.

We print with pleasure the above statement furnished us of the hatching of lobsters by the United States Commission at Wood's Holl. The experiment is an interesting one, and would be still more so were it possible to ascertain, with any degree of certainty, the results.

Mr. Maxwell thinks that the fourteen and one-half million bad eggs should not be counted in with the per cent. of unhatched eggs. Our investigations have shown that all of the eggs on the live lobster hatch, and we have no doubt that somewhere near thirty millions were lost, which, had they been left on the lobsters in their natural waters, would have been hatched. There is, however, another side to this question. Almost all of these egg-bearing lobsters were obtained from localities where the fishermen are proverbial for violating the law whenever it is possible for them to do so. It is, therefore, more than probable that the 69,066,000 young lobsters hatched were so many saved that would otherwise have been destroyed. Again, these young lobsters may have been planted in waters more favorable to their preservation.

There has been an increase of more than fifty men engaged in the lobster fishery this year, an increase of over three thousand pots and a decrease of over fifty thousand lobsters in the total catch. The catch per trap is the only source from which a correct estimate of these fisheries can be made; but the following table is perhaps more important, giving, as it does, the steady falling off of egg-bearing lobsters, which are the source of supply: —

1890,	70,909	1893,	32,741
1891,	49,973	1894,	34,566
1892,	37,230		

Although there has been a slight increase this year over last in the number of egg-bearing lobsters, it will be seen that if the ratio of decrease continues the time is not far distant when the lobster fisheries will be of little value. We have reached a point where some decided step should be taken to prevent overfishing. Many of the fishermen are aware of this, and will probably ask for a closed season. No closed season, however, will be of much value that does not protect the lobster during the time the largest amount of spawn is hatched. While the

Legislature should do all that is possible to protect and encourage the fishermen, the public good and the interest of the fishermen themselves demand that they should not be allowed to destroy an industry by which they obtain a living.

State Steamer.

After the appropriation bill for repairs on the steamer was passed, and other matters arranged so that the commissioners could act, we immediately had the "Ocean Gem" towed to Boston for temporary repairs. Of the $500 appropriated for that purpose, $494.51 was expended as judiciously as possible, and she was put into commission June 5, in command of Captain Proctor, who had so sucessfully managed her in former years. After being painted and put in good condition, she proceeded to Buzzard's Bay and adjacent waters, where she was located for the season, enforcing the laws in that section of the Commonwealth. The commissioners retained her in these waters through the whole season, for the reason that the menhaden were numerous and continued in large numbers in Buzzard's Bay from June to near the middle of October; and, unless the boat was kept in the vicinity, the fishing steamers from other States with their seines would have immediately commenced their illegal fishing and continued it as long as there were any fish in the bay.

The violations of the lobster laws have not been so numerous; this result having been brought about by the boat constantly patrolling, and giving poachers no opportunity to run in and take short and egg-bearing lobsters that might be confined in cars awaiting their arrival, to be taken to the New York market.

Sixteen arrests were made by Captain Proctor, and fourteen convictions. Fines imposed, $785. Short and egg-bearing lobsters seized, 5,060, which were returned to the water alive, with some 840,000 eggs.

While the protective laws are on the statute books, they cannot be enforced without a boat that can be on the spot at all times, in command of an efficient officer who is familiar with the locality and the movements of the menhaden and lobster fishermen of other States.

The steamer was laid up for the winter at New Bedford,

ERRATA.

Page 16. — In ninth line, for $500, read $600. In tenth line, for $494.51, read $594.51.

October 16, and will run another season, with such repairs to her machinery and boiler as the inspectors may require. Her general condition has not changed materially. She has been run without accident, and has done her work satisfactorily.

Weirs, Pounds and Nets.

The returns show that there has been an increase in the catch of mackerel, alewives and bass, and a decrease in all other kinds of fish taken. This occurs frequently. Since a record has been kept of fish taken by the shore fisheries one season, one or more species of fish will be taken in large quantities, and possibly the next season will show a falling of, and other kinds will come to the front.

The weirs have taken sufficient quantities of bait to supply the deep-sea fishermen at all times, which proves that the shore fisheries are essential to furnish a supply of bait whenever needed, enabling our fishermen to prosecute their business at a profit, and supply the markets with edible fish at a low price to the consumer.

Mongolian Pheasants.

Immediately after the passage of the resolve appropriating $150 toward the introduction of these birds, we opened correspondence with every one that we could find who had them or was supposed to have any knowledge of them. Prof. John Hudson of Washington State, who had agreed to obtain some for us, could not get them. We found one or two dealers who claimed to have them, asking exorbitant prices, which we might have been tempted to pay had we not discovered at the last moment that they were the ordinary ring-neck, a very different pheasant from the Mongolian. Our investigations led to the conclusion that there were no pure Mongolian pheasants this side of the Rocky Mountains.

Mr. Woodward of New York proposed to import some from China, and obtained orders amounting to twelve hundred birds, at ten dollars a pair. We put in an order for as many as he could spare. They were shipped and reached Gibraltar all right, but soon after the steamer encountered a cyclone, and from that time the birds began to die, and when New York was reached all had died. There are thirteen or more varieties of

pheasants in China, and, unless some one who knows about them is on the ground to look after them, there is no certainty as to what will be shipped.

The law against exporting pheasants from Oregon is so severe that no express company would take them. We had nearly given up our efforts to obtain them this year, and had accepted a setting of English pheasant eggs from Mr. Samuel Hanson of Boston, one of the executive members of the Liberty Hill Club of Connecticut. This club has been very successful in raising these birds, and we have no doubt that in some parts of the State they would thrive; but they are not so prolific, and are more tame and logy than the Mongolian, and would therefore more easily fall a prey to the unskilled marksman. The experience we have had with them will be of advantage in rearing the Mongolian, for we are satisfied, after careful investigation, that the latter is the most desirable, and perhaps the only variety adapted to our woods as a game bird.

Finding that they could not be obtained at any price in sufficient numbers for stocking, our only alternatives were either to abandon the experiment or to provide for breeding them. Believing that it was for the interest of the State that they should be introduced, we chose the latter, and have constructed nine large aviaries, covering about two thousand square feet, vermin-proof and securely roofed over; a number of hatching boxes with small yards have been made, and about twenty-five bantams secured as mothers. To complete the plant there should be more hatching-boxes, and the enclosure of about a quarter of an acre of grass land for the young birds to forage in.

In confinement, the Mongolian lays from sixty to eighty eggs during the season, and by using bantam hens as setters the pheasants are not depended on for brooding.

For the breeding birds we have we are indebted to the energy and generosity of Mr. Samuel Forehand of Worcester, president of the Forehand Arms Company. While in Oregon and Washington State last summer, Mr. Forehand, at the suggestion of Mr. Buffington, spent several weeks in investigating this matter, and is thoroughly satisfied of the importance of introducing them into this State, both as a game bird and as a source of food.

The birds he obtained, and those he is still to receive, have

cost him some hundreds of dollars. He presented them to the chairman of the commission, with the understanding that, if the State saw fit to encourage their introduction, they were to be used for that purpose.

During Mr. Forehand's stay in Oregon he formed the acquaintance of Judge Denny,* who introduced the Mongolian pheasant into that State, and from letters received from that gentleman since we are permitted to make the following extracts: —

S. Forehand, Esq., *Worcester, Mass.*

Dear Sir: —Your favor of July 17 at hand. In reply I have the pleasure of saying that twenty-eight birds were sent to Oregon in 1881. Their phenomenal increase is apparent, when I tell you that the game warden, Mr. M'Guire, estimates the number killed last season in three months, in Linn County alone, at thirteen thousand; and that a year ago last winter, when the sleet and snow were on, twelve hundred dozen of these birds were sent to one dealer in San Francisco. This is not only a first-class game bird, but a delicious morsel of food; hardy, and belongs clearly to a survival of the fittest. . . . They have, besides, proved a great benefit to the farming and other agricultural pursuits in this State, in that they feed on the pests and enemies of the crops, including worms, grubs, borers, flies, cutworms, codling moths, aphis, and other insect life, including their larvæ, without doing damage to agricultural and garden crops.

Yours truly,

O. N. Denny.

We fed our young pheasants every kind of bug and larvæ we could find, and they ate everything except the potato bug. As they search the trees as well as the ground for their food, they may yet be found a factor in the destruction of the gipsy moth.

In answer to the inquiry as to whether they drive out other game birds, Judge Denny says: "No, it is not true that these pheasants drive out other birds. On my farm the grouse and partridge are as plentiful as ever, and I often flush grouse and pheasants from the same cover."

The arrangements, now nearly completed, will enable us to raise hundreds of pheasants for distribution all over the State.

* Judge Denny was Consul General to Shanghai for seven years, and for eight years was in the service of the King of Corea.

An excellent plan for this distribution is to furnish breeding birds to game clubs and public-spirited individuals, who are willing to build aviaries and hatch and liberate young pheasants on public grounds. If the young birds are allowed to go out when from six to eight weeks old they will return to the coop to feed for several weeks, thereby establishing a locality which otherwise they might not obtain.

Should this plan be acceptable, the commission would furnish breeding birds and information to such parties, and in this way the stocking would be greatly facilitated. There would be no difficulty in finding any number of public-spirited persons who would be willing to contribute their share of the work.

As these pheasants belong to the fields as well as to the woods, living in summer on grubs and injurious insects, the farmer will find it to his advantage to protect them.

During the past year there have been 104 arrests for violation of the fish and game laws, and fines amounting to $1,675 have been paid into the State. Several cases were appealed.

With the increasing population and improved methods of capture many of our laws should be revised, if we wish to retain our game. So scarce has it become that men of means have been forced to purchase or lease land and water for preserves, in order to obtain needed recreation. This is the natural consequence of laws which are not sufficient to maintain and increase our fish and game where it would benefit the public.

Three months' shooting and six months' fishing, in a thickly populated State like Massachusetts, is altogether too much, and, if not checked, will in a short time destroy all we have. Our trout streams are kept up only by artificial stocking, or by being closed to the public by the owners, because of the excessive fishing which would render them valueless. Our woods and many of our streams are as capable of sustaining game and fish as ever they were.

Hundreds of thousands of dollars are expended by our people in Maine and New Hampshire, in the pursuit of fish and game. Would it not be economy for the State to protect and increase our fish and game, so that a portion of this money may be retained at home?

We recommend a change in the lobster law; a longer close season for trout; the prohibition of taking or having in possession trout less than six inches in length; and a law for the better protection of game.

We also recommend a law prohibiting the killing or having in possession, except for purposes of propagation, any Mongolian, English or golden pheasants, for a term of five years; also a small appropriation for their propagation.

The work of the commission has increased to that extent that headquarters and a permanent clerk is required.

E. A. BRACKETT.
I. C. YOUNG.
E. D. BUFFINGTON.

APPENDIX.

[A.]

List of Fish Commissioners.

The United States.

Marshall McDonald, Commissioner.
Richard Rathbun, Assistant in Charge of Division of Inquiry respecting Food Fishes.
Tarleton H. Bean, Assistant in Charge of Division of Fish Culture.
Hugh M. Smith, Assistant in Charge of Division of Statistics and Methods of the Fisheries.
Herbert A. Gill, Chief Clerk.

Alabama.

Col. D. R. Hundley,	Madison.
Hon. Chas. S. G. Doster,	Prattville.

Arizona.

T. W. Otis,	Prescott.
John Howard,	Prescott.
C. W. Stearns,	Phenix.

Arkansas.

H. H. Rottaken, President,	Little Rock.
W. B. Worthen, Secretary,	Little Rock.
J. W. Callaway,	Little Rock.

This State has never made an appropriation for fish culture.

California.

Joseph D. Redding, President,	San Francisco.
H. L. M'Neil,	Los Angeles.
Wm. C. Murdoch, Secretary,	San Francisco.
F. P. Deering, Attorney,	San Francisco.

Colorado.

Gordon Land,	Denver.

Connecticut.

James A. Bill,	Lyme.
Samuel M. Bronson,	Hartford.
Richard E. Follett,	Lime Rock.

The Shellfish Commissioners are: George C. Waldo, Bridgeport; Bryant A. Treat, Wallingford.

DELAWARE.

Charles H. Shubert, ... Odessa.
Dr. E. G. Shortlidge, Superintendent of Hatcheries, Wilmington.

GEORGIA.

R. T. Nesbitt, ... Atlanta.
Dr. H. H. Cary, Superintendent, ... La Grange.

ILLINOIS.

N. K. Fairbank, President, ... Chicago.
S. P. Bartlett, ... Quincy.
Geo. Breuning, ... Centralia.

INDIANA.

P. H. Kirsch, ... Columbia City.

IOWA.

E. D. Carlton, ... Spirit Lake.
Ole Bjorenson, Superintendent.

KANSAS.

John M. Brumbaugh, ... Concordia.

MAINE.

Thos. H. Wentworth, ... Bangor.
Henry O. Stanley, ... Dixfield.
O. B. Whitten, Sea and Shore, ... Portland.

MARYLAND.

G W. Delawder, ... Oakland.
G. R. Rider, ... Salisbury.

MASSACHUSETTS.

E. A. Brackett, ... Winchester.
I. C. Young, ... Wellfleet.
E. D Buffington, ... Worcester.

MICHIGAN.

Hoyt Post, ... Detroit.
Herschell Whitaker, ... Detroit.
H. W. Davis, ... Grand Rapids.
Seymour Bower, Superintendent, ... Detroit.
Wm. A. Butler, Treasurer, ... Detroit.
Geo D. Mussey, Secretary, ... Detroit.

MINNESOTA.

W. S. Timberlake, ... St. Paul.
Wm. Bird, ... Fairmont.
W. P. Andrus, ... Minneapolis.
A. F. Ferris, Secretary, ... Brainerd.
F. von Baumbach, ... Alexandria.
S S. Watkins, Superintendent, ... St. Paul.

MISSOURI.

H. M. Garlichs, Chairman, ... St Joseph.
J. L. Smith, ... Jefferson.
Edw. Cunningham, ... St. Louis.
A. C. Garlichs, Secretary, ... St. Joseph.
Philip Kopplin, Jr., Superintendent, . . . St. Louis.
James W. Day, Superintendent, ... St. Joseph.

NEBRASKA.

Joseph H. Blair, ... Omaha.
William L. May, ... Omaha.
R. H. Oakley, ... Lincoln.
M. E. O'Brien, Superintendent of Hatcheries, . South Bend.

NEVADA.

Geo. T. Mills, ... Carson City.
Ernest Harris, Deputy, ... Carson City.

NEW HAMPSHIRE.

W. T. Shurtleff, ... Lancaster.
W. H. Griffin, ... Manchester.
Nathaniel Wentworth, ... Hudson.

NEW JERSEY.

George Pfeiffer, Jr., ... Camden.
Parker W. Page, ... Summit.
W. Campbell Clark, ... Newark.
Howard P. Frothingham, ... Mt. Washington.

NEW YORK

L. D. Huntington, President, ... New Rochelle.
W. H. Bowman, ... Rochester.
A. S Joline, ... Tottenville.
D. G. Hackney, ... Fort Plain.
Rob't Hamilton, ... Greenwich.
E P. Doyle, Secretary and Engineer,
Office, 81 Fulton Street, New York.

OHIO.

B. F. Seitner, Secretary, ... Dayton.
J. H. Newton, ... Newark.
W. M. Remick, ... Middleborough.
H. B. Vincent, ... M'Connellsville.
Wm. R. Huntington, ... Cleveland.

OREGON.

H. D. M'Guire, Fish and Game Warden.

PENNSYLVANIA.

Henry C. Ford, 1823 Vine Street,	Philadelphia.
G. H. Welshons,	Pittsburg.
H. C. Demuth,	Lancaster.
L. B. Stillwell,	Scranton.
Louis Streuber,	Erie.
W. L. Powell,	Harrisburg.

RHODE ISLAND.

J. M. K. Southwick,	Newport.
William P. Morton, Secretary,	Johnston.
Henry T. Root, Treasurer,	Providence.
Chas. W. Willard,	Westerly.
A. D. Roberts,	Woonsocket.

SOUTH CAROLINA.

Hon. A. P. Butler,	Columbia.

TENNESSEE.

W. W. McDowell,	Memphis.
H. H. Sneed,	Chattanooga.
Edward D. Hicks,	Nashville.

UTAH.

A. Milton Musser,	Salt Lake City.

VERMONT.

John W. Titcomb,	St. Johnsbury.
Horace W. Bailey,	Newbury.

VIRGINIA.

Dr. J. T. Wilkins,	Bridgetown.

WEST VIRGINIA.

C. S. White, President,	Romney.
F. J. Baxter, Treasurer,	Sutton.
N. C. Prickett, Secretary,	Ravenswood.

WASHINGTON.

James Crawford,	Vancouver.

WISCONSIN.

The Governor, *ex officio*.	
Philo Dunning, President,	Madison.
C. L. Valentine, Secretary and Treasurer,	Jamesville.
Mark Douglass,	Melrose.
A. V. H. Carpenter,	Milwaukee.
Calvert Spensley,	Mineral Point.
E. S. Miner,	Sturgeon Bay.
James Nevins, Superintendent,	Madison.

WYOMING TERRITORY.

Louis Miller,	Laramie.

[B.]

The Protection and Preservation of Lobsters.*

By E. A. Brackett.

The protection and preservation of the lobster fisheries has more or less occupied the attention of the Massachusetts Commission. That this important industry is gradually growing less every year is apparent to every one who is familiar with its history.

Lobsters do not belong to the great ocean fisheries; they are bay or estuary fish, with little or no migratory habits, simply moving in shore during warm weather and retreating to deeper water in winter. From their limited range they can be easily depleted by over-fishing, but mainly through the destruction of the egg-bearing and immature lobsters, all of which can be controlled by wise legislation of a uniform character in the States interested.

I am glad, Mr. Chairman and gentlemen, that this call for a conference of several States, in the hope that it may lead to uniform laws wherever climatic conditions may permit, has come from the State of New York.

In the efforts of the eastern States to protect this industry, we have been handicapped by the fact that the State of New York, as well as States further south, permit the sale of egg-bearing and short lobsters, prohibited by law in the New England States. The practical effect of this has been to tempt our fishermen to violate the laws made for their own protection.

I have no comments to make here on the universal adoption by the fishermen of that Christian precept, "Take no thought for the morrow." Whatever else may be charged against them, it cannot be said that they do not live up to this rule.

Your fishing smacks have swarmed in our waters, carrying on an illegal traffic, to that extent that Maine and Massachusetts have been obliged to patrol the coast with police boats; while on land, in blissful ignorance of interstate laws, we have interviewed thousands of these

* Remarks made at the Coast Fishery Conference, New York City, December, 1893.

lobsters travelling southward by rail and given them a much needed rest in Boston harbor. The State of New York, and especially the city, is the great dumping ground for lobsters illegally caught in other States. All of this arises from lack of uniform laws in the various States interested.

Admitting (what I think will not be denied by any one familiar with its history) that the lobster fishery is a waning industry, we come to the question: What can be done to arrest its downward tendency? For reasons which will be stated further on, I think we will have to give up the idea of accomplishing this by artificial hatching.

In 1889 we conducted a series of careful and exhaustive experiments in artificial hatching, and the following statements were made in the Massachusetts report for 1891. Many of the facts then demonstrated were at that time new, and we are not aware that any of them have been called in question: —

In 1889, at a hearing before a legislative committee on fish and game, for the purpose of discussing the question of a close season on lobsters, the fishermen claimed that they spawned every month in the year. Our investigations have shown this to be correct, but not in the sense which fishermen claim for it. Such spawning is an exception to the general rule, for the bulk of the spawn is deposited in June, July and August.

While engaged in hatching lobsters in April, 1889, some facts were discovered leading to the conclusion that lobster eggs did not hatch in the winter. To verify this, egg-bearing lobsters were secured in the fall and kept in cars until spring. The temperature of the water was taken every day, and a few eggs were sent to Professor Garman, at Cambridge, every two weeks, for microscopic examination. It was found that little or no progress was made in the development of the embryo until the water reached the temperature of 50° F., and no eggs were hatched until the water rose to 55°.

These experiments have demonstrated the fact that, no matter at what time the eggs are deposited on the swimmerets, they require a certain degree of warmth to mature them. It is doubtful whether, if hatched below this temperature, they would find the animalcula necessary for their food.

Our experiments in hatching lobsters showed that, with proper arrangements, it was easy to hatch them by millions; but such an arrangement would require a hatching house, with machinery for lifting the water so that there would be a constant flow over the eggs, and that the young lobsters could be kept in confinement only a few days, after which they either destroyed each other or died from starvation. No efforts yet made to feed them have succeeded, and however

successful one may be in hatching them, they should be let loose at once to take their chances in the open sea. Egg-bearing lobsters put in boxes, properly prepared and floated in sheltered places, demonstrated the fact that there were no unimpregnated eggs. All hatched at about the same time. Whether they are impregnated before or after the eggs are laid has not yet been positively determined.

These experiments were carefully and scientifically made with a large number of egg-bearing lobsters and several millions of eggs. It should be remembered that the female carries her eggs in a way that protects them from their enemies, and that after they are hatched the shells remain attached to the swimmerets for several days, and that it is easy to detect the lobsters whose eggs have been recently removed by violence. An examination of hundreds of lobsters with egg shells attached taken from the traps shows that whether in the open sea or in confinement the eggs all hatch.

If these investigations are to be relied on (and they must stand until further investigation proves that they are in error), it does not seem possible that any advantage is to be derived from artificial hatching, except in localities where the egg-bearing lobster is not protected by law. The advantage of artificial hatching of fish applies only where, under certain conditions or circumstances, impregnation is defective, or where the eggs are exposed to danger during incubation, and where the fry can be easily transported to stock other waters.

In our experiment we repeatedly removed the eggs from the swimmerets and hatched them in boxes on wire screens. We found that, even with the most careful handling, this could not be done without a loss of from ten to twenty per cent.; and this is verified by the experiments at Wood's Holl during the past season, under the direction of the United States Commissioners, where, from 10,037,300 eggs, 8,818,000 were hatched, showing a loss of 1,219,300.

Satisfied that the conclusions drawn from our investigations were correct, we recommended a law protecting the egg-bearing lobsters, which was passed by the Legislature of Massachusetts, and has been fairly enforced; but it is too soon to realize any benefit from it, for it is generally understood that it requires from five to seven years for the newly hatched lobsters to reach the length of ten and one-half inches, which is the legal length in our State.

There is no question that this, together with the ten and one-half inch law, has been beneficial; but the latter law does not go quite far enough, as lobsters do not generally spawn until they reach a length of eleven or eleven and one-half inches; and the consequence is that there has been an alarming decrease in egg-bearing lobsters

during the last four years, as will be seen by the sworn returns of the Massachusetts fishermen : —

1890, ...	70,909	egg-bearing	lobsters.
1891, ...	49,773	"	"
1892, ...	37,230	"	"
1893, ...	32,741	"	"

These lobsters are returned at once to the water, alive.

The returns from the Wood's Holl station give an average of over 14,000 eggs per lobster. On that ratio our returns for 1890 should give 992,727,000 eggs, and the decrease since 1890 would be 534,352,000 eggs.

Whatever good may have accrued from the passage of these laws, it must be admitted that the industry is still on the decline. Should the protection of the egg-bearing lobsters fail to restore these fisheries, then it may be necessary to fix the marketable length at eleven and one-half inches. Again, if this should not be sufficient, then for a time prohibit the catching of all female lobsters.

There can be no question that one of the most serious obstacles to the preservation of our fisheries is the destruction of the young fish ; for, if they were allowed to mature sufficiently to deposit their spawn, if only for one year, it would go a long way toward keeping up the supply. The importance of this cannot be overestimated, for it lies at the foundation of the preservation of all our fisheries, and marks the line between failure and success ; and unless we look to it carefully, one of our most important food supplies will continue to be a waning industry.

In the bays, the lakes and the rivers the decline of the fisheries must be apparent to every careful observer. The theory that they can be maintained by artificial breeding against the wholesale destruction of both old and young fish is wrong ; for there will become a time (and in some instances it has already come) when the supply of mature fish, upon which we must depend for eggs, must fail.

Mr. Chairman and gentlemen, we need not go far to look for the cause of the depletion of our fisheries. In addition to the enormous destruction everywhere necessary to sustain the lower forms of life that prey upon each other, man steps in with his engines of destruction, regardless of the laws of reproduction, and destroys the balance of nature. The tendency once downward requires energetic and heroic efforts to arrest its further depletion. Already the great shad fisheries of the Connecticut, the Merrimac and other New England rivers are gone.

In the economy of living, in the interest of the people who have a right to demand a supply of wholesome food at reasonable price, it is our duty to do all we can to protect this important industry.

It may be said with much force that every business should be allowed to take care of itself, and that there should be no interference. That may be true so far as the manufacturers and consumers are concerned; but in the fisheries, as in the products of the soil, it requires careful consideration and intelligent action, looking not only to our immediate wants, but also to those who will come after us. Let us hope that meetings of this kind may be frequent, where the interests of the fishermen as well as of the people may be freely discussed.

The Shore Fisheries of Massachusetts.*

By Hon. I. C. Young.

I represent the shore fisheries of Massachusetts, and when I say shore fisheries, I include pounds, weirs and lobster traps along our coast. These fisheries are of great value to us. The pounds and weirs of Massachusetts not only furnish a large supply of food for the citizens of our own State, but are distributed through New England and the west. This is not a local question, it is national. It has been well said by Mr. Hughes of Truro "that without the traps and pounds of Massachusetts Bay the fresh-fish business of Boston would be practically destroyed."

Certain seasons of the year they take all their bait from these weirs along the coast of Massachusetts, and even to Maine. If they could not procure their supply of bait here they would be obliged to go to the British Provinces; and it is the experience of the past that so much time has been spent about the harbors in waiting for their bait that the trips were unprofitable, even if they secured a fair catch of fish. For this reason, if for no other, our weir industries should not be disturbed.

It was the decree of the Massachusetts Legislature of 1893 that Buzzard's Bay should be exempted from the operations of the pound and weir fishermen after the termination of their present leases. We hope to see good results from this legislation, and will report to you after giving it a trial for a few years.

The matter of bluefish, of course, is an important one to fishermen and sportsmen, and many of our fishermen make good money by taking these fish by hook and line or nets along the coast, and particularly with hook and line in Buzzard's Bay and the waters of Vineyard Sound.

In 1886 there was a bill reported to the Legislature prohibiting all seining about the islands of Martha's Vineyard, which included all

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*Remarks made at the Shore Fishery Conference, New York City, December, 1893.

kinds of fish. An amendment was put in which exempted mackerel. When the bill was before the House the friends of the prohibitory bill said there was no such thing as mackerel to be found and caught within the three-mile limit. The amendment was accepted and the bill passed. I will ask any mackerel fisherman, dealer or any one interested in this particular branch of our fisheries, what the outcome would have been had the bill passed as originally drawn? Why, sir, a very large proportion of the catch of mackerel on the New England coast for the season of 1893 was caught on the Atlantic side of Martha's Vineyard, within the three-mile limit.

I contend, as far as the fishermen of Massachusetts and New England are concerned, the value of the shore fisheries cannot be counted in dollars. They furnish untold employment for our citizens by the shore, and there are hundreds of thousands of dollars invested on account of these fisheries. And why should they be legislated out of the State to the advantage of the Provincial fishermen? They should not.

As for the diminution of food fish in the ocean, as has been said here to-day, it is beyond the power of State legislatures to regulate them. This year we have a good catch; next year, of any particular kind, we may not have any. I was in the fish business for years. In 1884 there was a catch of mackerel of nearly 600,000 barrels, and from that time until 1892 there was a constant decrease of these valuable fish along our coast; and in part I think this was owing to the over-fishing of that year, as the mackerel were so abundant and were taken in such large quantities that too many small fish were undoubtedly worthlessly destroyed and others driven from our shores, and have since sought other feeding grounds. They are gradually returning, and without doubt in a few years they will be as plenty as in former times.

A few words more before I finish. The protective laws that Massachusetts now has on her statute books will be enforced. And as for Massachusetts, in speaking for her, she will legislate in the future as in the past, — for the greatest amount of good to the greatest number.

[C.]

Condensed Report of the Adjourned Meeting of the New England Commissioners of Fish and Game.*

The meeting was called to order at eleven o'clock, with the following members present: Henry M. Stanley, Thomas H. Wentworth and Oren B. Whitten, Maine; Nathaniel Wentworth, New Hampshire; E. A. Brackett, I. C. Young, Massachusetts; J. M. K. Southwick, Henry T. Root and Charles W. Willard, Rhode Island; R. E. Follett, Connecticut; and Ex-Commissioner Prof. F. W. Putnam of Peabody Institute, Cambridge, Mass.

E. A. Brackett (Chairman). Gentlemen, we will come to order. The States are all represented except Vermont. We will state that our last meeting, two years ago, was adjourned to be called subject to the decision of the Massachusetts Commissioners. It would have been called last year but that the congress at Chicago and the conference of the commissioners of the New England and Middle States at New York seemed to crowd together, so we decided that it was not best to call another meeting.

Invitations for this meeting were sent to all of the New England commissioners, and also to Major McDonald, United States Commissioner. [Mr. Young here read a letter from Major McDonald, regretting that he could not be present.]

The principal object of this meeting is that the commissioners of the various New England States may confer, for the purpose of ascertaining how far uniform laws can be established. Incidentally this involves the whole question of the culture and preservation of fish and game. Perhaps the most important subject for consideration to-day is the lobster. Five of the States are more or less interested in it, particularly Massachusetts and Maine.

We have with us the commissioner of sea and shore fisheries of Maine, Mr. Whitten, and I should be very glad to have his views and opinions.

* Held Nov. 15, 1894, State House, Boston, Mass.

Mr. WHITTEN. Mr. Chairman, I really wish that you would defer calling on me, as I have had but a very short experience in sea and shore fisheries. I was appointed last April, and have had little time to gather statistics such as I would desire to present. The lobster fisheries of Maine I consider the most important of her shore fisheries. It is, indeed, getting to be a very large question with some of the fishermen, who are beginning to feel a little alarmed at the present state of the business, from the fact that lobsters are speedily becoming scarce. Some are so interested that they have taken the matter in charge themselves. At Swan's Island, Deer Island and other places they have drawn up resolutions and agreements that they will not save any less than the required length (ten and one-half inches). There are some poachers who seem determined to violate the law, and ship short lobsters to New York. If we could only get New York to join with us in keeping to the law, I think that the New England States could work in harmony.

I think we should make a law of ten and one-half inches, covering the whole year. Our present law gives the canners the privilege of using short lobsters, not less than nine inches, from the first of May to the first of June. I am told, however, that they do not discriminate as to size as they should.

The CHAIRMAN. Is it your idea that a uniform law, of ten and one-half inches, well enforced, would prevent the decline in your lobster fisheries?

Mr. WHITTEN. It is my impression that it would, if continued the entire year. A majority of the fishermen are in favor of it, and would voluntarily protect the lobster.

The CHAIRMAN. A ten and one-half inch lobster is not a spawning lobster?

Mr. WHITTEN. No, not less than eleven or eleven and one-half inches.

The CHAIRMAN. In my experience I have been strongly impressed with the fact that if you could so make your laws that they could cast their spawn even once, they would hold their own. Massachusetts, in addition to the ten and one-half inch law, has another which prohibits the taking or retaining the egg-bearing lobster. This law has been fairly enforced, and yet we are on the decline. It is the canners who seem to tread on your toes. They can be very easily traced. They started in Long Island Sound and moved northward until they reached Maine and New Brunswick, destruction following in their track. You feel confident, Mr. Whitten, that your next Legislature may repeal the nine-inch law for the canners?

Mr. WHITTEN. I should not like to say.

The CHAIRMAN. I would like to ask how well the present law is enforced.

Mr. Whitten. I think fairly well. As I said, my experience has been very short; but from what I gather from residents and dealers in Portland, where all the lobsters come in, there is quite an industry at times. This season we had four million lobsters right in Portland. A large number of smacks are employed, thirty-seven of which market lobsters only in Portland. Sometimes there seems to be a large quantity, and then at another time you cannot find any, so you see it is difficult to decide what is required.

The Chairman. Do you require your lobster catchers to make returns?

Mr. Whitten. No, but I propose to make them furnish them.

The Chairman. We furnish ours with blanks, and they are required to make returns. I suppose that you are aware that a large number of short lobsters from your State pass through Massachusetts to New York. We have been introduced to twenty-five or thirty thousand of them, which we gave a much-needed rest in Boston harbor.

Mr. Young. How about the New Hampshire law?

Mr. N. Wentworth. We do not know of anything of that kind going on. One of your deputies does.

The Chairman. I understand that he could not take them from those simply having them in possession, only from those who catch them.

Mr. N. Wentworth. Yes, that is our law. If they get them from our spawning beds they can be arrested; but if they can prove that the lobsters come from outside points, we cannot touch them.

The Chairman. I sent Mr. Chadwick to Portsmouth, and he was present when some three thousand lobsters were landed and put into barrels; but he could not touch them, for he could not prove that they had been caught in your State. Mr. Whitten, the price of your lobsters is steadily increasing, notwithstanding what you get from Nova Scotia?

Mr. Whitten. The railroad facilities for transportation are such that fresh fish are carried as far as St. Louis, which increases the demand.

Mr. Young. When was the ten and one-half inch law passed, Mr. Whitten?

Mr. Whitten. About two and one-half years ago, I think; after the commissioners were here three years ago.

Mr. Young. It would appear, in the interest of propagation, that a law should be passed prohibiting the canners from taking small lobsters. Whether or not the ten and one-half inch law is sufficient protection is a question.

Mr. Southwick. I should like to hear, Mr. Chairman, how you determine the statistics, unless your fishermen are obliged to make sworn returns every year of the number of lobsters taken.

The Chairman. Of course our data is based on the supposition that the lobstermen make fairly honorable returns. They show that the lobster is becoming scarce. It seems to me that the industry is too valuable to be lost.

Mr. Young. I think the prime cause is that the ground is overfished. This is true of Massachusetts and quite likely of Maine.

Mr. Southwick. They have an idea in Rhode Island that the lobsters are larger in Maine than there, and that the ten and one-half inch law would not so restrict the fisheries. I think that if it were restricted to ten inches it would have the support of our fishermen. It is only a question of making the limit a size that they would respect.

The Chairman. Have you a law regarding egg-bearing lobsters?

Mr. Southwick. No, only a law limit of ten inches.

Mr. Whitten. Have you any idea how many were caught during the year?

Mr. Southwick. No, other than the report of shipments over the railroad lines.

The Chairman. It seems to me very desirable that returns of these fisheries should be made by fishermen in all of the New England States, so as to give a reasonable data as to whether or not they are decreasing. It is very simple. If the commissioners have blanks printed, all that the fishermen have to do is to fill them out and return them. We are compelling ours to do this, and those who are dilatory are fined.

Mr. Whitten. That is my idea.

The Chairman. Supposing that the ten and one-half inch lobster is not a spawning lobster, then at that length the lobsters are destroyed before they arrive at maturity and deposit spawn.

Mr. Southwick. It is true that you can save more by limiting the size, providing the law can be enforced. The question is, whether the law had better not limit at a less length, and have the general support of all the fishermen. We have not the machinery for enforcing the law that you have in Massachusetts.

The Chairman. If the ten and one-half inch lobster is not a spawning lobster, it is not a law that protects lobsters. I think that if they were allowed, once in a lifetime, to deposit their eggs, the fishery would be kept up. There is a very strong feeling in this State for a closed season.

Mr. Follett. How long does the spawning season continue?

The Chairman. The bulk is deposited in June and July, perhaps

up to the middle of August. Lobsters are found carrying spawn all through the year, according to the temperature. If the water is not warm enough they do not hatch. We have verified this by keeping them, taking eggs from them twice a week and placing them under a microscope. On a lobster taken in October the eggs showed no development until June, when the water reached a temperature of 50° or 55°. They hatched all at once, and every egg. Mr. Whitten, Nova Scotia and New Brunswick still have a closed season?

Mr. Whitten. Yes, six months in the year, from July to January. I have no authentic knowledge of the results. They pay a great deal of attention to artificial hatching, and the government spends a great amount of money.

Mr. Southwick. I wish, Mr. Chairman, that you would give us some account of your process of hatching lobsters.

The Chairman. There are two ways. One is to place them in boxes with proper wire screens, placed at such an angle that the water flows back and forth between them. The other is hatching them as they do at Wood's Holl, where they put the eggs in jars, supplied with a constant flow of salt water pumped from the bay. The fry must be liberated within twenty-four hours after hatching, and cannot be transported any great distance. I can see nothing gained by it except where there is no protection for the egg-bearing lobster, then every egg taken and hatched is so much gain. It requires very skilful handling to remove the eggs from the lobster, and then there is from twenty to thirty per cent. loss; it would be far better to protect the egg-bearing lobsters and let them hatch in the natural way. They are very prolific. One twelve inches long will have fifteen thousand eggs, or a little longer twenty-eight thousand to thirty thousand, and all hatch. If there were some way to protect them they would fill our bays.

Mr. Southwick. I think that is just what we have to learn in the cultivation of the lobster. Last year I tried to experiment, but failed to get the per cent. claimed for them. Instead of the horizontal boxes, I had perpendicular ones set down into cooler water, and when they were hatching I could sink them so that the fry could escape. It is very difficult to rear the young lobster. I put about thirty into a glass jar; on the fourth day I counted fifteen, and the next day I had two. They had devoured one another. These two died.

Mr. Whitten. I kept a quantity for a few days. I had a large tank lined with screens, into which I put a live lobster, and the eggs hatched out, perhaps twenty thousand, and they kept diminishing every day.

Mr. Young. How many hatcheries are there in the Provinces?

Mr. Whitten. I am informed that during June, July and August, where the lobsters are hatched, the water is red with young lobsters.

Mr. Young. There is no question but that the close proximity of the New York markets has a great deal to do with the size of the lobster, a large percentage offered for sale there being under ten or even nine inches in length, and they come from Rhode Island or some State where they ought not. This year remarkably large lobsters have been taken in the Vineyard Islands. While we are looking into the question of protecting the lobsters, we must remember the poor fishermen along the coast.

Mr. T. H. Wentworth. If they quit fishing for a year, it would be better than destroying the industry altogether. Would it not be desirable to add half an inch each year, and so work it up to eleven and one-half inches without injury to the fishermen?

Mr. Southwick. Our fishermen believe that even the ten and one-half inches would detract so much from their earnings that it would be unprofitable. They catch a large percentage between ten and ten and one-half inches.

Mr. Young. I think it would be better for the State of Massachusetts to try a closed season than to extend a half-inch to the length of the lobster.

The Chairman. While I think that the commissioners should always consider the fishermen, and carefully legislate for their interest, they must also consider the public good. Because the fishermen want a thing, it does not follow that it should be considered merely because they want it. They are not apt to look ahead. I think we should take a proper view of all sides, and endeavor to influence legislation in the direction of a permanent arrangement that shall maintain and increase our fisheries.

Mr. Young. As to the matter of uniform law, we practically have Maine with us, except the two months she allows the canners, which she will rectify in the near future. Now, if we get Rhode Island and Connecticut, it is my opinion that a closed season will be the proper thing.

The Chairman. Mr. Wentworth of Maine, how is it in regard to salmon fisheries?

Mr. Wentworth. I refer that to Mr. Stanley, as he knows more about it. Mr. Stanley, you are on the banks of the river.

Mr. Stanley. I suppose you refer to the sea salmon. The number of fish taken both in weirs and pools proves that the salmon fishery has largely increased. Last year we liberated 250,000 salmon fry, and the United States hatchery at Orland as many more. I cannot give you the number for this year, but probably not so many.

The Chairman. What is the result of planting them in fresh water?

Mr. Stanley. The result is that they grow very slowly, and if they mature and deposit spawn they never recuperate afterwards. They must go to sea for that.

The Chairman. What has been your success with land-locked salmon?

Mr. Stanley. Wonderful. We have hundreds of ponds stocked with them. I think they are the coming fish. We are stocking our lakes and ponds with land-locked salmon more than any other fish.

The Chairman. Thousands have been put into ponds in Massachusetts, but they do not thrive.

Mr. Stanley. There must be something in your ponds not adapted to the fish. We have hardly made a failure in any pond where there are smelts. There must be smelts or some such fish for food for the salmon.

Mr. Willard. What depth of pond is necessary?

Mr. Stanley. If the pond is small, the fish will not grow so large; from two to five pounds, although I have seen them weighing ten. In deep ponds they grow much larger, sometimes reaching fifteen pounds.

The Chairman. Mr. Wentworth of New Hampshire, how are the land-locked salmon succeeding with you?

Mr. Wentworth. Very well indeed. We have an excellent supply of smelts.

The Chairman. Mr. Stanley, how is the game in your State this year?

Mr. Stanley. The increase of game in Maine is wonderful. It is thought that there is a deer to every square mile. It is our impression that if they will observe the laws in hunting we shall be able to keep up the supply with the present rate of increase. The moose, perhaps, requires some more protection. The caribou largely takes care of itself.

The Chairman. Mr. Wentworth, how about New Hampshire?

Mr. Wentworth. The deer in the northern part of the State are increasing wonderfully.

The Chairman. What about wolves, are they making their appearance?

Mr. Stanley. In the papers they are reported. We have offered a bounty, and continue to do so, but have never had a wolf's scalp brought in.

The Chairman. I am disappointed that Mr. Titcomb was unable to be here to-day. In regard to the pheasant, it seems that a Mr. Webb turned out a number of English pheasants in Vermont, and in a few days some of them were found thirty miles away. It was difficult to find out anything definite about them. The English pheasant as now bred is said to be a cross between the Mongolian and old

English pheasants. It seems to me that the Mongolian should be introduced everywhere that it is probable that they will thrive. They are not quite as large as the English, but they cannot be tamed. I have both varieties, and have a chance to study them, and it seems to me that the Mongolian is the coming game bird of this country. The short-tail grouse, quail and partridge go in flocks; the pheasant goes singly. Judge Denny writes me that the flavor of the Mongolian pheasant is very fine, and also that it is very prolific, laying from sixty to eighty eggs a season, while the English lays from twenty to thirty, and the golden from eighteen to twenty.

Adjourned, to be called together at the discretion of the chairman of the Massachusetts Commission.

[D.]

Reports of Deputies.

To E. A. Brackett,
Chairman Commissioners on Inland Fisheries and Game.

The steamer "Ocean Gem" went into commission on June 4, 1894; was hauled up on Oct. 16, 1894. Investigated 70 cases, made 16 arrests, 14 convictions, 2 arrests for other officers. Fines imposed, $785; lobsters seized, 8,388; eggs planted, 840,000.

Was in the waters of south-eastern Massachusetts during the summer. Menhaden were plentiful in Buzzard's Bay, and steamers from other States would go in after them whenever business called the boat in any other quarter. The fish left the bay about the middle of October.

Violations of the lobster law were less than in former years. The law relating to returns has been very well complied with. Not any complaints on game law.

Respectfully,

W. H. Proctor,
District Police.

Marion, Dec. 1, 1894.

Commissioners on Inland Fisheries and Game.

Gentlemen: — In submitting my report I would respectfully call your attention to an alarming fact, which, unless remedied at once, will, I am afraid, not only cause great hardship among the fishermen, but exterminate what should be, and in my opinion what can be, one of the most valuable of the shore fisheries. I refer to the lobster fishery.

In order to look at this question in the right light, and to get at the facts as they exist to-day, let us go back to 1890. By looking at your report for that year you will find that the average catch of lobsters per pot was about eighty-two.

From that year up to the present time the average has been falling off, and, although it will be impossible for me to say at this time just what this year's average will be, as the returns are not all yet tabulated, I think I am safe in placing it at fifty-five. This I think is an alarming state of affairs, and should be remedied during the coming winter.

The question now comes, how can this matter be best adjusted? I have talked this question over with the fishermen considerably during the past year, and, while they admit that something ought to be done, they hardly know what to suggest, fearful that any change in the law for the better protection of the lobster may have a tendency to impose upon them a heavier burden than at present. Some suggest one change and some another; but if the time can be agreed upon, I think the fishermen will approve a closed season of two months during the summer. I find the fishermen in different localities have different views in relation to the fisheries; but if a hearing can be given to representative fishermen from the towns along the coast, I think a bill can be framed to present to the next Legislature that will better the present conditions, and at the same time be satisfactory to all concerned.

Unusual interest has been shown by some of the fishermen during the year in the protection of the lobster, and in one of the principal south-shore towns they have organized, pledging themselves not to use any short or egg lobsters, and to report all such violations to the proper authorities. This is a move which, if adopted and lived up to by all the fishermen along the coast, would without doubt prove more valuable than any law ever placed upon our statute books.

Parties suspected of violating the lobster laws have been looked after pretty sharply during the year, and seizures have been made, with fines amounting to $380.

No complaints have been made for the shooting of quail; but under cover of shooting partridge opportunities have been offered to those who so desired to violate the law. If the closed season on quail extending to Oct. 15, 1895, had applied to partridge as well, I think we would have seen far better results. Considerable time has been spent in looking after parties supposed to have been interested in snaring; and, although snares were found in large numbers, the fact of partridge being so scarce it did not pay to tend them, and consequently but very few birds have been taken that way this year. All the different parties supposed to be implicated in the setting of snares have been located, and will be looked after very closely from now on.

Respectfully, JOHN W. DELANO,
Deputy Commissioner.

BRADFORD, Nov. 10, 1894.

To the Commissioners on Inland Fisheries and Game.

GENTLEMEN : — I submit the following report as deputy for enforcing the fish and game laws for the year 1894.

In June I received information that illegal fishing by use of a sweep seine was being done in the Merrimack near Lawrence ; the party was arrested and fined $25.

In July I examined the fishways on the Merrimack above Lowell, all of which were found to be out of repair. Those at Amoskeag and Garvin's Falls were of little use except when there was a large flow of water. The new dam across the Merrimack near Concord was found to be built without a fishway. This structure is five hundred feet in length and fourteen feet high, making an obstruction to the passage of all migratory fish.

Several salmon have been taken with single hook and line near Nashua ; one party is said to have caught five. One was caught at Haverhill with hook and line. It was reported that one had been illegally taken at Groveland. I investigated the case, and found that the salmon was taken out of shallow water in a crippled and dying condition by a boy.

In August six men from New Jersey, with three twelve-inch gill nets, commenced to fish for sturgeon in the Merrimack. I notified the parties that gill nets could not be legally used in the Merrimack fishing for sturgeon.

Several complaints were sent me from Gloucester of parties catching and selling short lobsters. I arrested three of the parties, all of whom were convicted and paid their fines. Two seizures of short lobsters were made from sunken cars in the harbor ; not being able to prove the ownership, I liberated the lobsters. An extensive business in short lobsters is carried on in Gloucester harbor by parties not residents of Gloucester, but who come into the harbor during the beach season, live on board of their vessels, catch short lobsters, and sail away to find a market where a safe landing can be made. Such parties never make any returns to the commission of lobsters taken. I have found in Gloucester this season local catchers of both fish and lobsters who have fished ten years and never made returns. These parties have been supplied with blanks, and notified of the consequence of neglecting to make proper returns.

The dealers and many of the catchers of lobsters are fully realizing the necessity of a close season, in order to save the large number of eight and nine inch lobsters that are annually destroyed during the beach season. A close time is the only sure remedy for this evil.

Many good-sized trout have been caught this season, but with the constantly increasing number of trout fishermen who annually persist

in fishing our streams late in August, it is scarcely to be expected that there will be any perceptible increase of parent fish. Our trout streams are not numerous or large enough to stand a constant drain of six months' fishing.

Partridges have been uncommonly scarce this season, and hunters are in a fair way to begin to realize the effect of persisting in shooting the last bird to be found in the woods in the month of December.

Quail are increasing rapidly, and there is a general feeling that much good is to result from the additional close time.

In April we received a full share of abusive language from a farmer in West Newbury, who claimed his rights were interfered with when by law he was not allowed to shoot game on his own premises during the closed season.

Number of persons arrested for violating the fish and game laws, 15; number of persons convicted, 14; total amount of fines imposed, $230.

Respectfully submitted, B. P. Chadwick,
Deputy Commissioner.

Provincetown, 1894.

To the Commissioners on Inland Fisheries and Game.

Gentlemen: — In making my report I am pleased to say that in the district assigned to me the laws for the protection of fish and game have been respected by the fisherman and sportsman of the Cape.

I have visited fifteen towns and over four hundred fishermen that get their living by fishing, that set and tend over three thousand nets, sixty-five weirs and thirty-five hundred lobster pots, many of whom are grateful to the Commonwealth for its protection.

The complaints that I have received have been on gulls and Sunday shooting; and I have attended to them. I made one arrest in the town of Truro, where I found a man in possession of two mackerel gulls or terns, and took him before Judge Hopkins, who found him guilty and fined him twenty dollars, which he paid.

S. B. Rich,
Deputy Commissioner.

Pittsfield, Mass., Nov. 10, 1894.

Commissioners on Inland Fisheries and Game.

Gentlemen: — Since my appointment as deputy I have endeavored to enforce the laws for the protection of fish and game in Berkshire

County as far as the time and money at my disposal would allow. Since June 1, 1893, I have made 27 arrests, and of these 24 were convicted, for the following offences: —

Selling short trout,	5
Selling trout out of season,	1
Taking trout out of season,	1
Netting trout,	3
Spearing trout,	5
Hooking trout with gang hooks,	1
Killing fish with dynamite,	4
Using net in lake,	1
Hunting rabbits with ferret,	3

The fines imposed on these offenders, which have been paid, amounted to $155. I have received $80 as rewards from the Pittsfield Rod and Gun Club. Considering the amount of time, labor and money which I have given to the work, the compensation is far below what it should be for the results obtained. I have barely received enough to pay actual expenses incurred, and it would seem to be only fair that the State should pay some compensation to those deputies who show the right kind of interest and zeal in enforcing the laws.

One important case has been pushed to conviction in the district court and appealed to the superior court. The party convicted was Fish Commissioner Follett of Connecticut, and a fine was imposed of $150. I have no doubt but that conviction will follow in the higher court. There was no desire on my part to prosecute an officer in the same line of work from another State, but the demands made on me by reputable citizens of southern Berkshire left no other course open than to have the charges investigated by the proper court. The result showed that I was entirely justified in the course taken. He was convicted for illegally netting trout in the town of Sheffield, and fine imposed as stated.

The change in the law, allowing deputies to make arrests, has been a decided help in enforcing the law. The fact that a deputy can make arrests gives him a better standing, and makes offenders have more respect for his office. A still further help should be given in making some provision for a deputy to obtain a search warrant where there is good reason to believe fish and game are being kept out of season. So far I have not been able to find the necessary authority for the issue of such warrants.

From a general observation of the number of trout caught in the county the past season, I should say the results were fairly good. While there are a great many fishermen, the supply seems to hold out remarkably well, which I attribute largely to the stocking of brooks

with young trout furnished by the State. The dry weather was a great injury to the trout brooks. Several cases came to my knowledge where trout were left in pools as the brooks dried up. I took pains to have them moved to running streams. Many thousands of trout died for lack of water, and there will be a demand from Berkshire for all the trout fry which the State can furnish the coming season.

As to game, I should say the number was nearly equal to that of past years. Woodcock and partridge have furnished fair hunting for the many hunters, and while individual bags have not been as large as usual, the aggregate number killed will not fall much short of that in past seasons. If we can succeed in stopping the snaring, and other violations of the law, Berkshire will have game birds for a good many years to come.

Respectfully yours, BENJAMIN SMITH,
Deputy Commissioner.

WORCESTER, Oct. 20, 1894.

Mr. EDWARD A. BRACKETT,
Chairman Commissioners on Inland Fisheries and Game.

DEAR SIR: — In compliance with your request for a report of the fish and game in my department and a statement of my work, I will say that sportsmen report better fishing in this section this season than for several seasons past, but game is more scarce than ever.

The Italians and Armenians are out in the fields and brush with a gun all summer. Sportsmen say that these people could not hit a bird if they should see one; but I think they must get something, else they would not keep at it so persistently. I have heard of nests of young birds that disappeared gradually until when the season opened there were none left.

The arrests I have made for violations of fish and game laws are the following: —

May 4, Richard McCarty, $20, George Thomas, $20, for taking fish with set nets. They had two nets, about one hundred feet long by four feet deep and two inches mesh in Lake Quinsigamond, Shrewsbury township. They took a bushel and a half of fish, mostly pout. Thomas paid and McCarty went over.

May 12, John Johnson, $20; George Wright, $20. Two set nets, average same as above, in Lake Quinsigamond, Shrewsbury township. Two bushels of fish, — pickerel, perch and pout. Both Johnson and Wright went over.

July 27, an Armenian, $10, for shooting robins in Worcester township; paid.

September 9, James Quirk, $20, for taking my boat when I was on duty; went over.

September 11, Wm. Hooley, $10, Chas. Peterson, $10, Oscar Noreen, $10, for taking fish with set lines in Washacum Pond, Sterling township. There were four in the party, one of whom escaped. Peterson paid; the other two appealed, and their case is still pending.

September 16, George Stott, $20, Edward Moran, $20, for hunting rabbits with a ferret in Millbury township. There were three in the party, and one escaped; the other two paid.

The time that I have devoted and money expended for the cause are as follows: —

May 4, Lake Quinsigamond, 1 day.
7, Mud Pond, 1 day.
9, Leesville Pond, 1 day, $1 50.
12, Lake Quinsigamond, 1 day.
17, Dorothy Pond, 1 day, $1.65.
21, Worcester court, 1 day.
22, Worcester court, 1 day.
29, Leesville Pond, 1 day.
30, Leesville Pond, 1 day, $2.40.
July 27, Brush, 1 day.
28, Worcester court, 1 day, $0.65.
Aug. 7, Washacum Pond, 1 day, $0.60.
Sept. 1, Washacum Pond, 1 day, $1.10.
7, Washacum Pond, 1 day, $0.60.
11, Washacum Pond, 1 day, $0.60.
12, Clinton court, 1 day, $1.80.
13, Clinton court, 1 day, $1.50.
15, West Boylston, 1 da $0.85.
17, Worcester court, 1 day.

The above is the time that I have lost from my regular occupation, but does not include the days I have slept to make up for being out all the previous night, or for Sunday work. So far as possible, I look after this business in my spare time. I am out almost every night till eleven or twelve o'clock, dragging coves with a grappling iron, or watching some suspicious party, and it is my opinion that the illegal fishing is pretty well broken up in this section; but it will require more time than I can afford to lose to enforce the game laws.

Yours very truly, JOHN F. CUMMING,
Deputy Commissioner.

MILFORD, MASS., NOV. 5, 1894.

Mr. E. A. BRACKETT,
Chairman Commissioners on Inland Fisheries and Game.

DEAR SIR: — In answer to your letter of October 10, I report the following: —

Received posters, distributed and tacked them in public places.

Also had extracts copied in two daily papers of town. I find it has resulted well.

Received two cans of trout, and placed them in brooks which run into Cedar Swamp Pond. The water is supplied from Echo Lake, a distance of three miles, owned by Milford Water Company, thus giving a plentiful supply the year round, and considered by competent judges one of the best brooks in the State for trout. Have seen them frequently, and they are growing fast.

Received two cans of white perch in September, and placed them in pond in good condition.

Relative to violations of law, fines, etc., I can say I have been on duty frequently, but found no cause for arrest or complaint.

Respectfully, MORTIMER EDWARDS.

ASHBURNHAM, Oct. 26, 1894.

Mr. E. A. BRACKETT,

Chairman Commissioners on Inland Fisheries and Game.

DEAR SIR: — In reply to your request of the 10th, during the spring and the first part of the summer there appeared to be quite an abundance of trout, and a considerable number of good-sized fish were reported as taken. During the latter part of the summer there was so little rain that many of the streams in this locality were dry, and the trout must have suffered severely.

Partridges are plenty, and a few quail have been seen. The only noticeable violations of the game laws in this section have been by those who hunt and fish on Sundays. No complaints have been made to me, and no fines imposed. I have notified several parties, who have been suspected of violating the law, that they would be prosecuted if caught, and I think this has done some good. From what I can learn, the fact that a game warden is located here deters many from hunting and fishing illegally.

I remain yours truly, GEORGE E. PELTON,

Deputy Commissioner.

SOUTHBRIDGE, MASS., Nov. 9, 1894.

E. A. BRACKETT,

Chairman Commissioners on Inland Fisheries and Game.

DEAR SIR: — In submitting my report, I can say that the fishing season has been excellent, except for trout. There are a large number of streams in this section, falling from high lands into Quineboag

River, and fed by springs, which in years past have furnished an abundance of trout; now but comparatively few are taken, and these are small, as a rule.

Sunday fishing is practised extensively; but detection is difficult, as land owners are not disposed to aid our efforts at prosecution. Sunday hunting has been less this year than usual.

Few quail are known to be in covers, less than last year; woodcock are not so numerous; partridges quite plenty; squirrels also, and many have been taken; foxes and coons, numerous.

In the outlying sections a murderous system of night and Sunday hunting of rabbits with ferrets reported, but difficult of detection, for it would require an army of watchmen, and the farmers do not seem to care to spare the time to assist. I have been able to stop some of it, and another year shall undertake an early and more careful preparation for doing more efficient work than I could this year, because of my very recent appointment. Eight or ten prosecutions have been made, in each of which convictions were procured in the lower court. Several appealed, and are not yet disposed of. We are fortunate in having a court disposed to assist in the enforcement of the game laws. The justice, being an ardent lover of the sport, has called the attention of his officers to the matter of Sunday hunting and fishing, and urged them to make crusades in the hunting and fishing sections on that day especially.

We are doing what we can to stock all our ponds with white perch, which are much desired by all fishermen. Bass are quite plenty and popular with our sporting men. We want white hares, quail and trout.

Suggestion: As rabbits are unfit to eat the middle of September, as the carcass is apt to be wormy and the young are not grown up enough to take care of themselves and so are simply slaughtered and given to the dogs, I suggest that the close season be extended at least to October 1, and we will try to make hunting with ferrets unprofitable and hazardous.

Respectfully submitted, J. W. Robinson,
Deputy.

Lawrence, Nov. 2, 1894.

Edward A. Brackett, Esq.

Dear Sir: — The low water in the river has kept me so busy that I have not written when I intended.

As fish warden for the city I had a man arrested for fishing with a net in violation of law, and he was fined twenty-five dollars, besides losing his boat and net. This seemed to have prevented others from

fishing, so that as deputy commissioner I have not had occasion to arrest any one. Have had pretty reliable information about the fishing between the dam and Lowell, and I think there has been very little, if any, illegal fishing since the above case.

Yours very truly, THOMAS S. HOLMES,
Deputy Fish Commissioner.

ATHOL, Oct. 25, 1894.

To the Chairman Commissioners on Inland Fisheries and Game.

DEAR SIR: — In accordance with notice received, I herewith submit the following report: —

The small fry I received in the spring I placed in several brooks where the public are allowed to fish, some of which have been dry this season for the first time in twenty years, so that many of them must of necessity have been lost this year. The large brooks where there has been water have furnished a good many fine strings of trout during the season. Stocking the brooks, is the only way to keep them up.

We in this part of Worcester County labor under a great disadvantage, the close season being one month longer than in Franklin County, which gives the fishermen of that county a month to fish the brooks in this county. The close season should be the same all over the State.

There have not been any cases of violation of the fish and game laws reported to me this year, and I think most of those who hunt and fish are well pleased with the game laws, and are ready to report any violation of them.

The Sunday law is a dead letter all over the State, for it has been violated so many years it is next to impossible to stop hunting and fishing on the Lord's Day. Massachusetts should enact some special law in regard to that, and enforce it, or repeal the present one.

Respectfully, W. H. FROST,
Deputy Commissioner.

BOSTON, MASS, Oct. 13, 1894.

MR. EDWARD A. BRACKETT,
Chairman Commissioners on Inland Fisheries and Game.

DEAR SIR: — My work in relation to fish and game protection has been about as follows: —

Attending legislative hearings in the interest of better protection for fish and game; disseminating information in relation to our laws;

hearing complaints, and investigating the causes; keeping a close watch upon the dealers in fish and game about our large markets; putting up posters in relation to fish and game laws in various sections, and sending out others to be so used; advising with executive committees of various protective associations as to the best methods of enforcing fish and game laws.

I have within a year investigated personally, and with the assistance of the superintendent of markets, some twelve or fifteen cases where complaints have been made concerning illegal sale of game. I have found no cause for believing the laws were violated to any extent except in one case, where one party sold a few quail, believing he had a legal right to do so. He discontinued the sale upon receiving notice from me.

From what I can gather, game is not very plenty throughout New England. Quail particularly are reported scarce in nearly every section where they were formerly abundant. Partridges are perhaps to be found in numbers that would average well with the past ten years. Owing to the unusual drought throughout the greater part of New England, woodcock have not been found in large numbers upon their usual breeding grounds.

Concerning existing laws for the protection of game, I believe they are entirely too liberal towards the dealer. They have been amended in his interest until they are hardly worthy a place upon our statute books.

Respectfully yours, JOHN FOTTLER, Jr.,
Deputy Commissioner.

WEST BARNSTABLE, Oct. 25, 1894.

E. A. BRACKETT,
Chairman Commissioners on Inland Fisheries and Game.

DEAR SIR: — Yours of the 11th inst. duly received, and contents noted.

There has been no violation of the fish and game law in this vicinity that I am aware of, or fines imposed. As a general thing, people here are inclined to obey the law, though no doubt there are violations of the law in some localities not brought to my notice.

Respectfully yours, LEANDER L. JONES.

NORTH ATTLEBOROUGH, Nov. 3, 1894.

E. A. BRACKETT,
Chairman Commissioners on Inland Fisheries and Game.

DEAR SIR: — In regard to the killing of game out of season, the appointment of a deputy in this section has had a good effect. The

most trouble I have had was with persons snaring; have driven them out. There have been no fines imposed.

I have been at a disadvantage in not having funds at my disposal, with a large section to cover.

Respectfully submitted, G. F. Stone,
Deputy.

Webster, Oct. 31, 1894.

E. A. Brackett,
Chairman Commissioners on Inland Fisheries and Game.

Dear Sir: — My appointment as deputy commissioner, bearing date Oct. 4, 1894, received. There has never been any one appointed here before, so the law has not been enforced, consequently there is not much fish or game. Since the laws have been posted and they know a deputy has been appointed, there have been no violations.

We have started a fish and game club, and will try to increase the fish and game.

Yours truly, G. C. Jache.

[E.]

Distribution of Fish.

Trout.

About 350,000 trout fry were distributed, as follows: —

Barnstable County.

Israel Crocker, for ponds in Barnstable.
J. S. Nicholson, for ponds in Hyannis.
A. S. Backus, for ponds in Barnstable.
E. S. Crocker, for ponds in Osterville.

Bristol County.

W. J. D. Bullock, for ponds in Swansea.
Benj. Cummings, for ponds in Dartmouth.

Plymouth County.

Chester W. Humphrey, for ponds in Rochester.
Robert F. Swift, for ponds in Chiltonville.
J. C. Osgood, for ponds in Duxbury.

Norfolk County.

Louis W. Wise, for waters in Wrentham.
Aden E. Reed, for waters in Walpole.

Essex County.

A. L. Clark, for waters in Ipswich.
J. L. Fickett, for waters in Ipswich.
C. O. Abell, for waters in Ipswich.
E. W. Tarr, for waters in Ipswich.
J. G. Blake, for waters in Ipswich.
E. W. Webster, for waters in South Peabody.
A. W. Beckford, for waters in Middleton.
O. W. Stowell, for waters in Lynnfield.
A. B. Clark, for waters in Ipswich.
C. W. Douglass, for waters in Methuen.
F. A. Wardwell, for waters in Methuen.
J. Ostler, for waters in Methuen.
F. J. Barrett, for waters in Methuen.

Middlesex County.

C. L. Smith, for waters in Chelmsford.
W. A. Lang, for waters in Chelmsford.
G. A. Coburn, for waters in Chelmsford.
G. A Colony, for waters in Ashby and Townsend.
J. M. Blanchard, for waters in Ashby.
G. L. Huntoon, for waters in Dracut.
E. H. Spencer, for waters in Ashby.
C. H. Barber, for waters in Framingham.
H. W. Eager, for waters in Marlborough.

Worcester County.

S. W. Putnam, for waters in Fitchburg.
E. F. Stone, for waters in Westminster.
J. W. Fairbanks, for waters in Westborough.
G. W. Cook, for waters in Barre.
H. F. Boutwell, for waters in Fitchburg.
F. W. Burleigh, M.D., for waters in Princeton.
O. F. Joslyn, for waters in Oxford.
W. H. Haven, for waters in Oxford.
P. Foster, for waters in Oxford.
H. H. Gabeller, for waters in Shrewsbury.
J. B. Garland, for waters in Sutton.
D. W. Hodgkins, for waters in Brookfield.
L. F. Sumner, for waters in Uxbridge.
J. F. Barnes, for waters in Petersham.
J. F. Whitcomb, for waters in Athol.
Eugene Smith, for waters in Phillipston.
Cha's W. Carroll, for waters in Westminster.
E. N. Cummings, for waters in Fitchburg.
T. K. Parker, for waters in Winchendon.
S. S. Gleason, for waters in Gardner.
W. H. Wheeler, for waters in Hubbardston.
C. G. Bancroft, for waters in Harvard.
H. E. Walker, for waters in North Brookfield.
H. E. Densmore, for waters in West Brookfield.
John Lyon, for waters in Spencer.
E. C. Smith, for waters in New Braintree.
E. Stone, for waters in Spencer.
Sutton Hatchery, for breeding fish.

Hampden County.

Allen Hubbard, for waters in Westfield.
James Noble, for waters in Westfield.
G. E. Whipple, for waters in Granville.
H. Ripley, for waters in Blandford.
D. B. Holcomb, for waters in Chester.

Franklin County.

W. R. Phinney, for waters in Orange.
F. M. Jennison, for waters in Orange.

Berkshire County.

C. N. Foote, for waters in Lee.
L. B. Moore, for waters in Tyringham.
J. K. Moulton, for waters in Dalton.
J. M. Stevenson, for waters in Pittsfield.

Lake Trout.

One million eggs were received from Northville, Mich., hatched with a loss of about two per cent., and distributed as follows: —

Onota Lake, Pittsfield,	J. M. Stevenson.
Carbuncle Pond, Oxford,	O. F. Joslyn, *et al.*
Badacook Lake, Groton,	M. P. Palmer.
Quinsigamond Lake, Worcester,	E. B. Stoddard.
Black Pond, Bourne,	Wm. F. Nye.
Goose and Black ponds, Chatham,	S. L. Atwood.
Spectacle Pond, Lancaster,	G. F. Prevear.
Minister's Pond, Eastham,	C. Anderson.
Centerville,	A. S. Backus.
Snow's Pond, Truro,	G. W. Holbrook.
Reservoir, Winchester,	Water Board.

White Perch.

The following applicants were supplied with from fifty to sixty perch of fair size: —

A. F. Whitin, for pond in Northbridge.
M. Edwards, for pond in Milford.
E. D. Goodell, for pond in Brookfield.
G. W. Holbrook, for pond in Wellfleet.
A. C. Moore, for pond in Sturbridge.
J. J. Smith, for pond in Westford.
C. M. Pratt, for pond in Groton.
G. E. Ricker, for pond in Merrimac.
J. J. Prevaux, for pond in Amesbury.
T. C. Lovell, Fitchburg Water Works.

Carp.

J. R. Deane, M.D., Newtonville.
A. Hastings, Berlin.
A. F. Whitin, Whitinsville.
J. W. Fairbanks, Westborough.

[F.]

List of Ponds Leased

By the Commissioners on Inland Fisheries, under Authority given by Chap. 384, Sect. 9, of the Acts of 1869.

1875.

May 1. Chilmark Pond, in Chilmark, to J. Nickerson and others, agents, 20 years.

July 1. Haggett's Pond, in Andover, to inhabitants of Andover, 20 years

Aug. 1. Oyster Pond, in Edgartown, to J. H. Smith and others, 20 years.

1876.

May 28. Phillipston Pond, in Phillipston, to inhabitants of Phillipston, 20 years.

1877.

Oct. 1. Fort, Great Spectacle and Little Spectacle ponds, in Lancaster, to inhabitants of Lancaster, 20 years.

1879.

July 1. Fresh Pond, in Falmouth, to Thomas H. Lawrence, 20 years.

1880.

March 1. Lake Winthrop, in Holliston, to inhabitants of Holliston, 15 years.

June 1. Jordan Pond, in Shrewsbury, to inhabitants of Shrewsbury, 15 years.

July 1. Swan and Martin's ponds, in North Reading, to inhabitants of North Reading, 15 years.

1881.

Jan. 1. Great and Job's Neck ponds, in Edgartown, to Amos Smith and others, 15 years.

April 1. Long Pond, in Blandford, to Samuel A. Bartholomew and another, 15 years.

May 2. Nonesuch Pond, in Weston and Natick, to W. A. Bullard and others, 15 years.

1882.

March 1. Blair's Pond, in Blandford, to Curtis M. Blair and another, 15 years.

April 1. Ward Pond, *alias* Wightman Pond, in Ashburnham, to Herbert F. Rockwood and another, 15 years.

May 1. Horn Pond, in Woburn, to inhabitants of Woburn, 15 years.

June 1. Wickaboag Pond, in West Brookfield, to inhabitants of West Brookfield, 15 years.

1883.

April 6. Fresh Pond, in Tisbury, to Allen Look and others, 15 years.

23. Keyes Pond, in Westford, to M. H. A. Evans, 15 years.

May 7. Singletary Pond, in Sutton and Millbury, to towns of Sutton and Millbury, 15 years.

7. The Great Pond, in Ashfield, to town of Ashfield, 15 years.

1884.

July 17. Farm Pond, in Cottage City, to John C. Hamblin and others, 15 years.

Aug. 30. Sand Pond, in Ayer, to inhabitants of Ayer, 15 years.
Sept. 5. Great Pond, in North Andover, to inhabitants of North Andover, 15 years.

Fish seen in the Lawrence Fishway in the Season of 1894.

April 30 to May 10. Suckers and lampreys, run small.
May 11 to 18. Lampreys, run large; suckers and alewives, run small.
19. One salmon, 14 pounds; lampreys, run moderate.
20 to 28. Lampreys, run small
29. One salmon, 10 pounds; a few lampreys.
30 to June 8. River very high; a few lampreys running.
June 9. One salmon, 8 pounds; a few lampreys.
10 and 11. Lampreys, run moderate; a few suckers.
12. Two salmon, 12 to 16 pounds; lampreys, run moderate.
13. Two salmon, 8 to 12 pounds; lampreys, run large.
14 to 16. Lampreys, run large; suckers, run small.
17. One salmon, 10 pounds; lampreys, run moderate.
18. One salmon, 8 pounds; lampreys, run moderate.
19 to 23. Lampreys, run large; suckers, run small.
24 to 30. Lampreys, run moderate; suckers, run small.
July 1 to 7. Lampreys and suckers, run small.
8. Two black bass; suckers, run small.
9 to 11. Suckers, run small.
12. Two black bass; a few suckers.
13 to 18. Suckers, run small; a few small silver eels.
19. Water shut out of fishway, and not let in except on Sundays until September 14.
Sept. 15. Three black bass; suckers, run moderate.
16. Four black bass; suckers, run moderate.
17. Two black bass; suckers, run moderate.
18. One black bass; suckers, run moderate. Water shut out of fishway at 10.30 A.M., and not let in except on Sundays until October 14; a few suckers, only running when water was in.
Oct. 15 to 20. Suckers, run moderate.
21. One salmon, 10 pounds; suckers, run moderate.
22. One salmon, 8 pounds; suckers, run moderate.
23. Suckers, run small.
24. Shut water out of fishway; water let in again November 4, but up to this time (November 7) no fish were present.

From the above record it will be seen that the remarkably low water in the Merrimac this season has prevented the fish from running, the run of all fish being small, with the exception of lampreys, there being little water over the dam to cause fish to run from the latter part of June to October 14, a very unusual occurrence.

Respectfully submitted, Thomas S. Holmes,
In Charge of Lawrence Fishway.

[G.]

Legislation.

Acts of 1894.

[Chapter 107.]

An Act to establish an alewife fishery in orleans.

Be it enacted, etc., as follows:

Section 1. Rufus E. Snow, William H. Nickerson, William Wareham and Eugene Damond are hereby authorized to make the necessary improvements for the preservation and taking of alewives in Sparrow's pond, so-called, in the town of Orleans, and to construct an outlet from said pond to the Potanimicot river, so-called.

Section 2. Said parties shall be liable to pay all damages occasioned in any way to any person in his property in carrying this act into effect. If any person sustaining damage thereby fails to agree with the said parties in interest as to the amount of damage to be paid he may have his damage assessed in the manner provided by law in respect to land taken for highways.

Section 3. Any fishery so created shall be deemed to be the property of the said parties and their heirs and assigns.

Section 4. No person without the permission of said parties or their heirs or assigns shall take, kill or haul on shore any alewives in the fishery so created by them.

Section 5. Whoever violates any of the provisions of this act, or any of the regulations of the said parties in interest in said fishery, shall forfeit not less than five nor more than fifty dollars for each offence, to be recovered by prosecution before any court in the county of Barnstable having jurisdiction of the same. Said forfeiture shall accrue to the benefit of the parties in interest in said fishery.

Section 6. All prosecutions under the preceding section shall be instituted within thirty days from the time the offence was committed.

Section 7. This act shall take effect upon its passage. [*Approved March 14, 1894.*

[Chapter 124.]

AN ACT TO ESTABLISH AN ALEWIFE FISHERY IN THE TOWN OF WAREHAM.

Be it enacted, etc., as follows:

SECTION 1. The Tremont Nail Company is hereby authorized to make the necessary improvements for the introduction and taking of alewives, salmon and shad in the Parker Mills pond and the Tihonet pond, so-called, in the town of Wareham, and to construct fishways and outlets from said ponds through the dams to the Wankinco river, so-called.

SECTION 2. The said Tremont Nail Company shall be liable to pay all damages that shall be sustained by any person in his property in carrying into effect this act. If any person sustaining damage as aforesaid shall not agree with the said parties in interest as to the amount of damages to be paid he may have his damage assessed in the manner provided by law in respect to land taken for highways.

SECTION 3. Any fishery so created shall be deemed to be the property of the said Tremont Nail Company and its successors and assigns.

SECTION 4. No person without the permission of said Tremont Nail Company or its successors or assigns shall take, carry or haul on shore any alewives, salmon or shad in said ponds and river.

SECTION 5. Whoever violates any of the provisions of this act, or any of the regulations of the said parties in interest in said fishery, shall forfeit and pay a sum not less than five nor more than fifty dollars for each offence, to be recovered by prosecution before any court in the county of Plymouth having jurisdiction of the same. Said forfeiture shall accrue to the benefit of the town of Wareham.

SECTION 6. All prosecutions under the preceding section shall be instituted within thirty days from the time the offence was committed.

SECTION 7. This act shall take effect upon its passage. [*Approved March 16, 1894.*

[Chapter 134.]

AN ACT RELATING TO THE FISHERIES IN BASS RIVER.

Be it enacted, etc., as follows:

SECTION 1. The selectmen of the towns of Yarmouth and Dennis, or a majority of them, are hereby authorized and empowered to meet together annually, on or before the twentieth day of April, at such place as shall be agreed upon by the chairmen of the respective boards, and at that meeting or any subsequent meeting previous to the twentieth day of April in each year shall prescribe the times, places and manner of taking herring or alewives, perch, salmon and trout in Bass

river, at the mouth thereof, or in the ponds and streams connected therewith, and they may appoint some suitable person or persons to take the same and shall fix the compensation to be paid therefor; or may grant permits to suitable persons, being inhabitants of one of said towns, to catch any of said fish in the said river or the ponds and streams connected therewith, and fix the compensation to be paid to said towns for such permits, and shall determine the quantity of said fish which each family in said towns shall receive from such catches, and establish the price therefor; and when directed by a vote of both of said towns may sell, at auction or otherwise, the right of fishing in said river and its waters to one or more persons for a term of not more than five years at one sale, upon such terms and conditions as the said towns or said selectmen may direct: *provided*, that nothing in this section shall be construed to prevent any person, being an inhabitant of either of said towns, from taking fish with natural or artificially baited hook and hand line, under such regulations as said selectmen may prescribe.

Section 2. The net proceeds of the said fisheries shall be divided equally between the towns of Yarmouth and Dennis.

Section 3. The said selectmen, or a majority of them, are hereby authorized and empowered to cause the natural streams through which the said fish pass to be kept open and without obstruction; to remove such obstructions as may be found therein and to make the passageways wider and deeper if they shall judge necessary. And the said selectmen, or either of them, by paying a reasonable consideration therefor if demanded, shall have authority for said purposes to go on the land of any person through which said streams run, without being considered as trespassers; and any person who molests or in any way hinders the said selectmen, or either of them, in the execution of the duties of their office, or obstructs any passageway in said Bass river or in the ponds or streams connected therewith, otherwise than as allowed by said selectmen, shall be punished by fine not exceeding twenty dollars for every such offence.

Section 4. Whoever takes any herring or alewives, perch, salmon or trout in Bass river or in the ponds and streams connected therewith, or within half a mile in any direction from the mouth of said river, at any time or place or in any manner other than may be allowed by said selectmen, shall for each offence be punished by fine not exceeding ten dollars if the quantity of fish so taken is less than one barrel; but if the quantity of fish so taken is one barrel or more, shall be punished by fine not exceeding forty dollars and not less than ten dollars for each barrel of fish so taken.

Section 5. If any vessel, boat or craft shall be found within the limits of said river or the ponds or streams connected therewith, or

within half a mile of the mouth of said river, with any more of said fish on board the same than is allowed by said selectmen, or if any person or persons, with any such vessel, boat or craft, shall be detected in taking or attempting to take any of said fish in any manner different from that prescribed by said selectmen, or with seines, nets or other instruments of a kind or size different from that established by said selectmen, it shall be the duty of said selectmen, or either one of them, to seize such vessel, boat or craft, seine or other instruments, and detain the same not exceeding forty-eight hours, in order that the same may be attached by due process of law and made answerable for the fines and forfeitures incurred, with costs of suit.

Section 6. All fines and forfeitures incurred under this act shall accrue, one half to said towns of Dennis and Yarmouth and the other half to the person who shall prosecute for the same, excepting that when said selectmen, or either one of them, shall prosecute, then the forfeitures shall accrue wholly to the said towns, to be recovered by complaint in any court having jurisdiction of the same.

Section 7. Chapter thirty-seven of the acts of the year eighteen hundred and forty-nine, and all acts or parts of acts regulating the fisheries in Bass river or the ponds and streams connected therewith which are inconsistent with the provisions of this act, are hereby repealed.

Section 8. This act shall take effect upon its passage. [*Approved March 17, 1894.*

[Chapter 140]

An Act to authorize the towns of Plymouth and Wareham to contribute to the maintenance of the alewife fishery of the Half Way pond and Agawam river.

Be it enacted, etc., as follows:

Section 1. The towns of Wareham and Plymouth are respectively authorized to contribute such portion of the money derived from the alewife fishery of the Half Way pond and the Agawam river in said town of Wareham, as they may respectively determine, toward defraying the cost or maintenance of the dam and fishway at Glen Charley in said Wareham, and for the purpose of improving said fishery; or said towns may respectively raise money by taxation and apply the same to the purposes aforesaid: *provided*, that two thirds of the voters present and voting at a legal meeting called for the purpose shall so vote in each town.

Section 2. Nothing in this act contained shall be construed to make either of said towns of Plymouth or Wareham liable in any way

for the cost or maintenance of said dam or fishway, nor for any injury to persons or property arising therefrom.

Section 3. No right or authority is given under this act to the inhabitants of the said towns, or either of them, to enter upon, molest, disturb or in any manner interfere with any dam upon said stream or private property upon the borders of said river, without the consent of the owner or owners thereof.

Section 4. This act shall take effect upon its passage. [*Approved March 21, 1894.*

[Chapter 189.]

An Act for the further protection of smelts in Boston harbor and other waters.

Be it enacted, etc., as follows:

Section 1. No person shall set, draw, use or attempt to set, draw or use, any net, seine, trap or device for catching smelts, other than a naturally or artificially baited hook, in the waters of Boston harbor, Hingham harbor, Weir river, Weymouth Fore river, Weymouth Back river, Neponset river, Charles river, Mystic river, or in any cove, bay, inlet or tributary of the same: *provided*, that nothing herein contained shall be so construed as to prohibit the use of traps for catching lobsters.

Section 2. Possession of any net, seine, trap or device for catching fish, other than a naturally or artificially baited hook, in or upon said harbors, rivers or tributaries, or on the banks of the same, if adapted to the present catching of smelts and apparently intended for that purpose, shall be deemed prima facie evidence of a violation of this act; and the possession of any fresh smelts, not apparently caught by the use of a hook, in or upon said harbors, rivers or tributaries, or on the banks of the same, after sunset or under other circumstances of suspicion, shall be deemed prima facie evidence that said smelts were caught contrary to the provisions of this act by the person in whose possession they are found.

Section 3. Whoever violates any provision herein contained, or receives smelts knowing or having reasonable cause to believe that the same have been taken contrary to the provisions of this act, shall be punished by a fine of not less than fifty nor more than two hundred dollars, or by imprisonment for not less than six nor more than twelve months, or by both. In case of a second offence it shall be the duty of the court to impose both said fine and imprisonment. Upon conviction of any violation of any provision of this act the person so convicted shall in addition forfeit any net, seine, trap or other device, and any vessel, boat, craft or other apparatus used in

connection with such receiving, or other violation of the provisions of this act. Any such articles set or in use contrary to the provisions of this act are hereby declared to be forfeited.

Section 4. Any fish commissioner, deputy commissioner, deputy sheriff, police officer or constable, within his jurisdiction, is hereby empowered to make search for and seize, without warrant, any smelts which he has reason to suspect were taken contrary to the provisions of this act, and the net, seine, trap or other device, and the vessel, boat, craft or other apparatus used in connection with such receiving, or other violation of the provisions of this act, and the cask, barrel or other vessel or wrapper containing said smelts. Said officer is authorized to libel said property according to law, or, at his discretion, to sell the same or any part thereof at private sale or public auction, and libel the net proceeds of such sale according to law, in the same manner and with the same effect as if such proceeds were the property itself.

Section 5. In all proceedings under this act one half of all fines and forfeitures shall enure to the benefit of the complainant and one half to the city or town within which the offence is committed.

Section 6. All acts or parts of acts inconsistent herewith are hereby repealed. [*Approved March 31, 1894.*

[Chapter 296.]

An Act relative to fishing in Crystal lake in the city of Haverhill.

Be it enacted, etc., as follows:

Whoever takes or catches any fish in the waters of Crystal lake in the city of Haverhill, from sunrise on Wednesday morning in any week to sunrise on Monday morning in the following week, for a period of three years from the passage of this act, shall be punished by a fine not exceeding twenty dollars for each offence. [*Approved April 23, 1894.*

[Chapter 97.]

An Act prohibiting the taking or killing of gray squirrels, hares or rabbits between the first day of March and the fifteenth day of September.

Be it enacted, etc., as follows:

Section 1. Whoever takes or kills a gray squirrel, hare or rabbit, between the first day of March and the fifteenth day of September,

or within said time buys, sells or offers for sale any of said animals, shall be punished by a fine of ten dollars.

Section 2. Section five of chapter two hundred and seventy-six of the acts of the year eighteen hundred and eighty-six is hereby repealed. [*Approved March 12, 1894.*

[Chapter 102.]

An Act for the protection of quail during the year eighteen hundred and ninety-four.

Be it enacted, etc., as follows:

Whoever during the year eighteen hundred and ninety-four takes or kills a quail in this Commonwealth shall be punished by a fine of twenty dollars for every quail so taken or killed. [*Approved March 14, 1894.*

[Chapter 205.]

An Act concerning the preservation of birds and game.

Be it enacted, etc., as follows:

Section 1. Whoever takes or kills a pinnated grouse at any time, or a woodcock, or a ruffed grouse, commonly called a partridge, between the first day of January and the fifteenth day of September, or a quail between the first day of January and the fifteenth day of October, or a wood or summer duck, black duck or teal, or any of the so-called duck species, between the fifteenth day of April and the first day of September; and whoever buys, sells or has in his possession any of the birds named in this act and protected thereby, during the time within which the taking or killing thereof is prohibited, whenever or wherever the aforesaid birds may have been taken or killed, shall be punished by a fine of twenty dollars for every bird so taken or killed, or had in possession: *provided*, *however*, that any person, firm or corporation dealing in game or engaged in the cold storage business, may buy, sell or have in possession, and any person may buy from such person, firm or corporation, and have in possession, if so bought, quail from the fifteenth day of October to the first day of May; and any such person, firm or corporation, may have in possession on cold storage, quail, and may buy, sell and have in possession pinnated grouse, wild pigeons and any of the so-called shore, marsh or beach birds, or of the so-called duck species, at any season, if said quail, grouse or other birds have not been taken or killed in this Commonwealth contrary to the provisions of this act.

Section 2. Section one of chapter one hundred and forty-two of the acts of the year eighteen hundred and ninety-one and chapters one hundred and eighty-nine and three hundred and ninety-eight of the acts of the year eighteen hundred and ninety-three are hereby repealed; but such repeal shall not affect any forfeiture incurred, suit or proceeding pending or action accrued under said section and chapters.

Section 3. This act shall take effect upon its passage. [*Approved April 5, 1894.*

[H.]

Lobster Returns.

1894.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
Wm. H. Rowe,	Annisquam,	7	130	–
Antone Francis, Antone P. Silva, Frank Silva, Manuel P. Silva, Antone P. Silva, J. K. Ferreira, Joseph Rogers, Peter Silva, M. E. Grace, Antone Silva, John M. Moura, Joaquim Perry, J. P. Serrilha, Graciano Rio, Andrew Ferreira, Jose Alberto, Manuel Silva, A. F. Ferreira, Joseph Lafreue,	Boston,	2,605	103,750	2,468
D. B. Blackman, H. P Taylor, A. L. Manter, A. H. Taylor, Henry C. Phillips,	Brant Rock,	260	11,330	180
W. M. Hersey, C. C. Foster,	Beverly,	110	5,362	237
A. A. Nightingale, F. C. Leonard,	Bournedale,	116	7,245	366
Geo. W. Sargent, A. B. Robinson,	Bay View,	120	5,382	235

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
W. H Phinney, . .	Chiltonville, .	444	32,960	955
Chas. Rogers, . .				
Geo. Atwell, . .				
R. F. Swift, . .				
A. S. Hadaway, . .				
B. F. Hodges, . .				
L. S. Thurston, . .				
Geo. Boutin, . .				
A. B. Rogers, . .				
C. A. Boutin, . .				
H. A. Jordan, . .				
H. F. Gould, . .	Chatham, . .	1,430	45,010	946
R. F. Bloomer, . .				
E. S. Gould, . .				
Jeremiah Eldredge, .				
J. & F. Bloomer, .				
Oscar Gould, . .				
A. S. Hammond, .				
F. Bloomer, . .				
E. Z. Ryder, . .				
Richard Gould, . .				
Thos. Holway & Son,				
Geo. N. Eldredge, .				
F. B. Nickerson, .				
F. W. Baker, . .				
S. W. Gould, . .				
W. F. Hitchings, .				
G. W. Bloomer, . .				
W. A. Bloomer. . .				
Seymore Patterson, .				
Bloomer & Eldredge,				
W. R. Bloomer, . .				
Z. A. & F. M. Cottle, .	Cuttyhunk, . .	750	61,336	3,219
D. P. Bosworth, . .				
J H. Tilton, . .				
D. Weeks, . . .				
R. W. Rotch, . .				
C. C. Allen, . .				
J. W. Tilton, . .				
H. J. Allen, . .				
Richard Beebe, . .				
John Cornell, . .				
A. P. Tilton, . .				
John Manley, . .				
O. H. Stetson, . .				
Frank Peters, . .				
Joshua Keeney . .				
Wm. E. Jameson, .				

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
S. E. Jackson, H. J. Jamieson,	Cuttyhunk,	750	61,336	3,219
G. H. Butler, Jr., G. H. Butler, R. P. Reed, Franklyn Tilton, Wm. S Mayhew, Luther Athearn, L. E. Cottle, Welcome Tilton,	Chilmark,	176	7,722	686
A. S. Figueredo, M. E. Salvador, Ainslee & Almas, M. P. Valine, J. F. Vandura, John H. Wilber, Joseph Jason, Jr, M. S. Thomas, Chas. B. Wood, James Anderson, Levi Cadoza, Wm. Dean, Joseph J. Grassie, Frank Salvador, John Smith, Geo. E. Antonie,	Cohasset,	1,256	79,984	1,181
Joseph Gasper,	Cambridge,	100	5,500	110
John A. Manchester, W. A. Gifford,	Dartmouth,	52	1,207	167
Frank E. Phillips, O. C. Hunt, Clarence Smith, E. J. Smith, F. E. Wardsworth, J. K. Burgess, E. W Cook, Isaac Symmes, G. F. Freeman, W. B. Morse, J. H. Mack, Warren Corbett, Frank C. Chandler, W. E. Peterson, C. E. Peterson, Churchill & Soule, J. M. Snow,	South Duxbury,	554	42,135	393

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
J. E. Ellis, Geo E. Hall, N. S. Chapman, Robert Nickerson, Wm. M. Stone, M. L. Howes,	Dennis,	106	2,997	343
John A. Bunker, H. O. Hillman,	Edgartown,	65	4,584	462
W. E Nickerson, Lemuel Davis, E. E. Baker, B. P. Childs, I. W. Bisblee, W. A. Grew, A. F. Chadwick, Curtis N. Jennings,	Falmouth,	82	4,919	662
Joseph Douglass, Wm Walen, Wm. S. Parsons, C. R. Peterson, Fred Parsons, Frank Alba, E. F. Parsons, E L. Small, Albert & Howard Parsons, D. S. Webber, D. N. Mehlman, John Swinson, Henry W. Nelson, Walter Marchant, Joseph Parsons, Melvin Parsons,	Gloucester,	769	43,921	489
Geo. Delano, Lyman Sears, Chas. Tallman, B. P. Williamson, C. B. Cushing, W. H. Tallman, H. P. Tallman, E. Perkins, E. R. Lapham, Geo. Sampson, Thomas Pezzy, Winfred Keene, F. N. Bencordo, Isaiah Walker,	Green Harbor,	584	28,463	393

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
B. J. Attaquin, J. H. Foster, C. H. Ryan, F. A. Colvin,	Gay Head,	95	4,689	325
O. S. Crosby,	Hyannisport,	50	2,909	783
Daniel Southers, B. F. Pope, A. B. Mitchell, M. McDonald, John Reed, Andrew Galliano, A B. Cleverley, S. M. Babbitt, E. F. Pope, Alphonso Cleverley, A F. Pope, J. H. Smith, J. C. Augustus, F. Smith, Geo. F. Pope, Geo. W. Kippens,	Hull,	1,170	67,705	1,845
C. F. Bartlett, C. A. Bayley, A. J. Richards, Rust & Grant,	Ipswich,	67	3,581	95
E. A. Ransom,	Kingston,	50	867	25
Elias Haraden, G W. Woodbury, J. W. Roberts, A. W. Riley, H. L. Marchant, Warren Poland, W. H. Sargent, J. J. Woodbury, Addison Woodbury,	Lanesville,	237	12,880	327
Henry Beyer, W. O. Stone,	Lynn,	70	3,797	40
Thomas Farry, Wm. E. Dodd, F. A. Frost, Wm H. Tutt, Atkins & Mullett, J. W. Smethers,	Marblehead,	803	54,960	1,385

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
C. O. Briggs, S. B. Perkins, J. S. Stone, J. F. Adams, J. H. Magee, S. K. Stone, J. G. Stacey, Sans Standley, R. T. Mullett, John W. Florence, C. H. Smethurst, Stephen Smith, Wm. R. Dennis,	Marblehead,	803	54,960	1,385
C. G. Story, J. G. Burnham, E. L. Story, H. & F. Story, David Worth, W. S. Douglass, J. B. Knowlton,	Magnolia,	345	13,701	463
Chandler Lewis, L. O. Sargent & Co., Thomas Dow, J. H. Dow, James McNeary, James Powell, Chas. Sargent,	Manchester,	185	10,209	305
Robert Richards, Thomas Stevens, C. H. Dixon, H. A. Thomas, S. B. Nightingale, A. C. Sampson, W. J. Nightingale, A. L. Holmes, H. C. Bennison, L. B. Briggs, J. H. Valler, Rufus Ellis, D. W. Nightingale, F. W. Packard, C. W. Holmes, Frank Peterson, Henry Dodge, S. B. Blackmer, W. H. Peterson, S. P. Briggs, Wm. Harlow,	Manomet,	1,384	85,909	2,352

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
M. L. Chandler, . .	Manomet, . .	1,384	85,909	2,352
G. W. Holmes, . .				
T. R. Jordan, . .				
James Gould, . .				
Cornelius Briggs, .				
Saml. Bartlett, . .				
Stephen Holmes, .				
Geo. A. Manter, . .				
John Rooney, . .				
Geo. Griswold, . .				
J. J. Nye, . . .	Mattapoisett, .	70	1,523	246
W. L. Richmond, .				
Lilburne Hiller, . .				
J. F. Ramsdell, . .	Nantucket, . .	225	8,114	221
John Walkins, . .				
A. & C. Brooks, . .				
J. E. Nickerson, .				
B. A. Atwood, . .				
C. W. Taylor, . .	Nahant, . .	190	8,917	172
G. W. Taylor, . .				
Saml. Covell, . .				
Chas. B. Gove, . .				
Fred Johnson, . .	Nantasket, . .	310	18,801	254
Chas. Wilson, . .				
Chas. A. Bates, . .				
Geo. L. Hatch, . .				
Chas. H. Place, . .				
C. P. Matterson, . .	New Bedford, .	90	4,346	675
Caleb Hayden, . .	Orleans, . .	44	1,042	58
F. H. Hayden, . .				
Geo. W. Tarr, . .	Plymouth, . .	392	22,739	416
James Deacon, . .				
J. M. Watson, . .				
Wm. Covington, .				
A. M. Watson, Jr., .				
A. M. Watson, . .				
J. P. Thurston, . .				
Louis G. Doten, . .				
Jerome Stone, . .				
H. L. Sampson, . .				
J. B. Walker, . .				
J. D. Smith, . . .	Provincetown, .	304	7,039	725

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
S. F. Atwood, Wm. H. Kenney, David Newcomb, F. M. Bowley, J. C. Lurten, John W. Savage, W. C. Snow, Alfred J. Emery,	Provincetown,	304	7,039	725
Lewis Brothers, C. N. Morgan, Amos Lufkin, Fred Johnson,	Pigeon Cove,	177	13,304	261
C. P. Peterson, J. H. Hill,	Quincy,	81	5,107	59
S. F. Norwood, S. G. Perkins, Geo. E. Wendell, Chas. Ross, Stephen Jordan, Geo. Webb, Thos. C. Shehan, P. E. Conley, C. W. Gott, Wm. Stillman, Peter Dixon, W. E. Norwood, Harvey Pool, Lawrence Hagan,	Rockport,	957	55,817	1,148
Chas. E. Hoxie, Ezra Pierce, A. H Gibbs, R. W. Gibbs,	Sagamore,	135	4,864	459
A. F. Pool, E. A. Pool, A. E. Reed, A. A. Flanders, L. W. Mayhew, Onslow Stewart,	Squibnocket,	170	11,366	309
F. C. Burbank, C. H. Parker, E. W. Hawes,	Sandwich,	71	3,380	391
Edward Marsh, W. A. Jones,	Swampscott,	386	29,723	371

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
G. A. R. Horton, J. D. Woodbury, A. G. Watts, J. W. Kehoe, J. F. Blaney, Thos. E. Stone, Stephen Hammond,	Swampscott,	386	29,723	371
Wm. P. Foye, John Clark, G. W. Berry, W. H. Lewis, H. G. Tucker,	Salem,	290	14,323	348
R. W. White, R. G. I. Tillgreen, H. H. White, Daniel Ward, E. B. Pratt, Cornelius Driscoll, Andrew Curtis, James Doherty, A. E White, Geo. F. Edson, Thomas Dwyer, Oscar Palmgreen, John Welch, Francis Mulkerne, Jesse Spooner, J. F. Cushman, Daniel H. Ward, John Barry, Thomas Flynn, J. McCarty, Wm. Ward, James Dwyer, Seth Vinal, Daniel Duffy, James Hughes, Frank Flint, John Reymond, Robert O'Hearne,	Scituate,	1,381	63,403	1,422
O. D. Bradley, T. M. Chase, L. E. Smith, Hiram Luce, Herbert Crocker, F. O Vincent, Clarence Cleveland,	Vineyard Haven,	99	3,492	293

Lobster Returns — Concluded.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
G. A. & L. A. Rogers, Geo. H. Luce, J. A. Mayhew, G. W. Manter,	North Tisbury,	107	6,097	982
Richard Lombard, C. H. Collins,	Truro,	45	1,512	276
E. A. Bragg, F. R. Gifford, N. C. Phinney, O. C. Grinnell, P. W. Wainwright, Thomas Hinckley, B. L. Gifford, J. F. Cook, P. M. Stuart, Frank Peterson, Albert Nickerson, J. K. P. Purdum, L. L. Adams, H. H. Hilton, J. J. Veeder, O. C. Grinnell, Jr.,	Woods Holl,	261	15,155	2,177
Geo. A. Gifford, Thomas J. Brightman, Frank Almy,	Westport,	160	7,738	578
John Wadsworth, W. E. Wyman, J. B. Wyman, Antone Veaso, G. M. Wyman,	Winthrop,	305	33,845	1,611
Herbert Lovell,	Yarmouth,	18	173	8
Total men, 425,		20,303	1,096,834	34,897

Comparison of Returns of Lobster Fisheries.

YEAR.	Number of Men.	Number of Traps.	Number of Large Lobsters.	Number of Egg-bearing Lobsters liberated.
Increase of 1894 over 1893,	54	3,291	–	2,156
Decrease of 1894 below 1893,	–	–	52,898	–

Gill and Sweep Nets.

1894.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.
F. G. Kelley, Moses Sturgess, Herbert Lovell,	Barnstable,	-	7	148,563	-	315
J. M. Babbitt,	Berkley,	-	127	120,000	-	-
J. H. Winslow,	Brewster,	-	-	126,573	-	-
Thomas James,	Bay View,	-	-	-	42,400	-
J. D. Kelley, W. C. Kelley, W. H. Hallett,	Centerville,	-	-	-	-	-
Wm. S. Mayhew & Bros., H. M. Smith Estate,	Chilmark,	-	-	9,853	-	-
A. S. Hadaway,	Chiltonville,	-	-	41,999	-	-
Reuben T. Bearse, E. S. Gould, Benj. F. Patterson, C. C. Nickerson, J. F. Eldredge, A. Z. Atkins, Richard Gould, C. D. Hammond, J. S. Ryder, Andrew Bearse, W. F. Hitchings, E. Z. Ryder, S. W. Gould, Francisco Bloomer, O. C. Eldredge, H. F. Gould, A. S. Hammond, G. W. Bloomer, W. E. Greenleaf, G. E. Hall, Obed Shiverick, W. M. Stone, Thomas Hewes, M. L. Howes, Howes & Crowell,	Chatham,	-	17	2,691	-	13,510
F. H. Mayo, A. J. Edwards, C. F. Hall, H. W. Whittemore, J. H. Long, N. S. Chapman, G. G. Snow, Nehemiah Edwards, Sylvanus Wixon,	Dennisport,	-	-	3,898	55	742
E. D. Perry, E. R. Whitmarsh, C. N. Simmons, J. A. Hardy,	Dighton,	-	1,463	1,123,101	-	-
H. B. Hinckley,	Eastham,	-	-	-	-	-
Jones & Collins,	Falmouth,	-	-	16,500	-	-
Frank Saunders, Geo. W. Douglass, H. W. Nelson, John Davis, Benjamin Brazier, Joseph Parsons, C. W. Tibbetts,	Gloucester,	-	360	73,360	145,300	3,725
W. T. Tuttle,	Harwichport,	-	-	-	-	-
Thomas Weston,	Hingham,	-	-	45	-	-
Edwin Taylor, Orrin S. Crosby,	Hiannisport,	-	26	277	-	15,287
A. W. Riley, A. Morgan, J. W. Marchant, J. J. Woodbury,	Lanesville,	-	-	50,800	262,445	384,766

Gill and Sweep Nets.

1894.

Striped Bass.	Scup.	Squeteague.	Kingfish.	Butter-fish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
-	3	1	3	-	-	748	-	237	8	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	222	-	-	-	-	-	-
-	-	20	-	21	-	7	534	6,022	-	-	-	-
-	-	50	-	-	-	-	-	116	-	-	-	50
-	-	-	-	-	-	-	-	-	-	-	-	8
122	1	65	9	101	5	26,408	-	8,794	-	608	-	304
93	-	160	11	68	-	13,534	-	29,774	99	-	-	3,734
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	325	-	62	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	2,388	-	110,013	-	6	1	-	5,450	2,227
-	-	-	-	-	-	1,621	-	25	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	53
29	3	15	3	8	-	138	-	543	-	-	3	96
-	-	-	-	-	-	41,562	-	6	8	-	1,152	-

Gill and Sweep Nets — Continued.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.
Chas. W. Pool, . . .	Lanesville, . .	–	–	50,800	262,445	384,766
Elbridge Woodbury, . .						
J. W. Roberts, . . .						
J. H. Robinson, ...	Mattapoisett, .	–	–	249,264	–	–
J. H. Cushing, ...	Middleborough, .	–	–	220,000	–	–
Henry Cotton, ...	Medford, . .	–	–	51,592	–	–
R. Farry, ...	Marblehead, .	2	–	21,010	30,385	425
C. E. Rogers, . . .						
R. C. Glass, . . .						
B. F. Stevens, . . .						
S. B. Perkins, . . .						
Stephen Holmes, . . .	Manomet, . .	–	–	–	3	–
H. B. Cash, ...	Nantucket, . .	–	–	–	–	1
W. F. Ramsdell, . .						
W. I. Fisher, . . .						
John Watkins, . . .						
Dunhan & Coffin, . .						
Arthur Manter, . . .						
Nester Thurlow, . .	Newburyport, .	–	2,700	1,081,800	4,400	3,200
G. G. Short, . . .						
C. A. Caswell, . . .						
Cornelius Briggs, . .	Plymouth, . .	–	–	23,306	–	12
Wm. Harlow, . . .						
J. L. Cole, ...						
J. C. Barnes, . . .						
Calvin Parsons, . . .	Pigeon Cove, .	–	–	1,015	23,743	6
E. C. Parsons, . . .						
John Brown, . . .	Provincetown, .	16	–	1,983	73,277	15,207
R. F. Collins, . . .						
Frank Atwood, . . .						
H. L. Mayo, ...						
R. G. Tarrant, . . .						
Wm. A. Nickerson, . .						
Frank Days, . . .						
A. W. Newcomb, . .						
Zephaniah Rich, . .						
A. A Mayo, ...						
J. S. Smith, ...						
J. F. Atkins, . . .						
Wm. M. Ewell, . . .						
W. H. Newcomb, . .						
Seth Nickerson, . . .						
Geo. H. Lewis, . . .						
John Atkins, . . .						
J. E. Weeks, . . .						
J. K. Corea, . . .						
Geo. Crosby, . . .						
R. W. Cook, . . .						
Geo. Lewis, . . .						
Martin Silva, . . .						
E. Nickerson, . . .						
Geo. W. Freeman, . .						
Samuel Small, . . .						
Wm. Dyer, ...						
J. William, ...						
J. T. Jordan, . . .						
J. G. Rand, . . .						
Reuben Ryder, . . .						
C. H. Emery, . . .						
Manuel S. Brown, . .						
F. N. Days, . . .						
Wm. Newcomb, . . .						
Jonah Newcomb, . .						
Chas. Williams, Jr., . .						
John A. Silva, . . .						
J. W. Savage, . . .						
Joseph Patrick, . . .						
J. W. Fuller, . . .						
E. Q. Weeks, . . .						
S. L. Ellis, ...						
Luther P. Hatch, . .						
E. H. Tillson, . . .						

Gill and Sweep Nets — Continued.

Striped Bass.	Scup.	Squeteague.	Kingfish.	Butter-fish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
-	-	-	-	-	-	41,562	-	6	8	-	1,152	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	1,171	-	44,593	-	-	-	-	-	-
-	-	-	-	-	-	118	-	-	-	-	-	-
-	1	226	-	2	71	2,981	-	27,387	-	17	-	-
-	-	-	-	-	-	-	-	-	-	-	-	7,446,850
-	-	-	-	1	-	234	-	-	1	-	-	3,627
-	-	-	-		-	1,976	-	-	-	-	204	-
105	-	913	-	2,003	-	463,467	647	10,657	2	60,150	954	

Gill and Sweep Nets — Concluded.

PROPRIETOR.	TOWNS.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.
Jesse Ghen,						
Manuel Tarvis,						
Jonathan Atwood,						
Henry Atwood,						
G. W. Hurlburt,						
R. O. Kelley,						
John O'Donnell,						
A. L. Daggett,						
John Dolan,						
Neadom Rogers,						
B. R. Kelley,						
J. A. Wolf,						
Manuel Williams,						
Daniel Williams,						
W. M. Wareham,	Provincetown,	16	–	1,983	73,277	15,207
David L. Smith,						
J. D. Smith,						
Boniface Silva,						
Stephen F. Atwood,						
Joseph H. Emery,						
H. N. Smith,						
Joseph Ellis,						
Alfred J. Emery,						
Manual Carter,						
Prince Freeman,						
Isaac Tyler,						
John W. Fratus,						
Bangs & Lewis,						
John Swartz,						
C. W. Gott,						
Gilbert Rich,						
Jerry Shehan,	Rockport,	–	–	690	291,755	600
Robert Wendell,						
Albert Story,						
G. B. & E. Williams,	Raynham,	–	1,072	417,656	–	–
Gustavus King,						
A. F. Nesbitt,						
G. A. R. Horton,	Swampscott,	–	–	–	39,990	40,485
Theophilus Brackett,						
Joseph Nickerson,						
Geo. F. Edson,	Scituate,	–	–	727	46,141	20,432
James Edson,						
Wm. Ward,						
Eugene W. Haines,	Sandwich,	–	–	179	3	19
Chas. H. Parker,						
Joseph A. Cobb,						
B. F. Lombard,						
R. S. Lombard,						
S. Hardy,	South Truro,	–	–	–	–	–
E. L. Doyle,						
H. F. Atwood,						
Isaiah Atwood,						
Caleb W. Grozier,						
Thomas D. Smith,	North Truro,	–	–	–	632	–
C. H. Collins,						
J. F. Stevens,						
Warren W. Freeman,	Truro,	–	–	–	–	–
H. P. Macomber,	Taunton,	–	152	163,700	–	–
L. W. White,						
C. F. Hitt,	Westport,	–	–	17,865	1	1,172
F. D. Grinnell,						
A. G. Allen,						
Geo. Baker,	Wellfleet,	–	–	216,530	–	–
Besse & Prescott,	Wareham,	–	6	123,330	–	–
Sylvanus Robbins,	Yarmouth,	–	–	6,290	–	–
Totals, 204,		18	5,930	4,314,597	960,530	499,904

Gill and Sweep Nets — Concluded.

Striped Bass.	Scup.	Squeteague.	Kingfish.	Butter-fish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
105	–	913	–	2,003	–	463,467	647	10,657	2	60,150	954	–
–	2	–	–	–	–	33,905	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	7,796	–	–	–	–	–	405
–	–	–	–	794	–	5,451	–	–	–	–	113	1,563
–	–	–	–	–	–	1,511	–	–	–	–	–	–
–	–	–	–	56	1	5,540	1	1,576	83	–	–	–
–	–	–	–	–	–	4,025	–	36	1	–	–	–
–	–	–	–	–	–	398	–	101	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–
9	3	–	–	–	–	–	–	–	–	463	–	6,339
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–
358	13	1,450	26	6,613	77	766,573	1,182	85,342	203	61,238	7,876	7,465,256

POUNDS AND WEIRS.

1894.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.
Alexander Sargent,	Bay View,	-	-	3,917	384,740	4,440	-
Thomas Neville,	Beverly,	-	-	-	119,600	1,873	-
T. L. Mayo, Wm. B. Crosby,	Barnstable,	-	493	5,150	50	26,940	1
D. F. Atwood, James E. Eldredge, W. A. Bassett, Niles Nelson, T. Ellis & Son,	Brewster,	-	588	14,741	140,110	600	22
S. W. Gould & Co., Reed, Loveland & Co., Geo. W. Crowell, Benjamin Mallows,	Chatham,	-	1,584	27,225	727,775	210,710	-
H. O. Pool & Co., Frank P. Tilton, J. & D. Look, Daniel Vincent, R. Flanders & Co., H. B. Davis & Co.,	Chilmark,	-	350	28,778	150	27,647	1
W. S. Mathews, Tallman & Gifford, Edward H. Smith, C. F. & J. A. Manchester, James P. Swenson, Wm. T. Dunn, Nicholas Priaulx, Geo. Priaulx, Waite & Smith, Snell & Butts, Geo. A. Snell & Co., Benj. F. Smith & Co.,	So. Dartmouth,	-	246	190,404	10,091	307,605	700
Ansel P. Howes, Thatcher Kelley, Anthony T. Chase, Zenas H. Baker,	Dennis,	-	45	34,785	61,300	157,732	-
R. J. Horton, Peter Higgins, Alonzo K. Higgins,	Eastham,	-	1	-	124,200	1,000	-
A. B. Veeder & Co., John Manly & Co., Peter B. Davis, Wm. Shepard & Co., J. P. Holmes, C. C. Church & Co., Henry Daggett, Isaiah Spindell, H. J. Allen,	Gosnold,	-	30	121,454	970	22,144	-
John Swinson, Joseph Douglass, Douglass & Hodgkins, Wm. Walen, Walter Babson, Thomas Douglass,	Gloucester,	-	-	3,500	191,800	-	-

Pounds and Weirs.

1894.

Scup.	Squeteague.	Kingfish.	Sea Bass.	Butter-fish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
5	–	–	–	119,000	–	277,082	–	40	53	900	42,385	–
–	–	–	–	1,950	–	26,722	–	–	126	–	–	13,720
29	266	232	1	934	8	174,540	–	274	1,572	602	100,981	936
–	–	–	–	617	1	238,307	–	324	530	312	14,800	1,627
312	17	–	27	10,071	–	5,733	–	399	26	9,549	84,925	70
35,196	60,810	27	4,212	24,580	1,633	8,078	1	174	220	4,976	98,161	1,200
25,062	101,349	530	59	235,663	20	14,652	7	246	15,402	63,059	187,330	108,472
2	219	85	–	1,887	4	96,681	–	487	789	3,518	127,117	195
–	–	–	–	2,875	–	18,593	–	4,565	255	300	–	–
273,698	47,120	175	60,541	122,585	199	22,067	7	73	1,461	19,943	6,000	336,323
–	800	–	–	596	–	15,698	–	–	–	1,000	56,600	–

Pounds and Weirs — Concluded.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.
D. F. Weeks & Co.,	Harwichport,	–	46	7,360	73,600	28,240	–
Henry W. Brown, Alphonso Tarr, F. A. & C. W. Tarr,	Magnolia,	–	15	14,800	311,250	10,472	–
Jones Brothers, Edward W. Heath, Wm. Elwell,	Manchester,	7	93	110,302	735,301	12,533	–
T. L. Mayo,	Nahant,	–	–	4,300	219,800	38,000	–
J. A. Lewis, Cornwell Brothers, Perez Bangs, T. K. Paine, John E. S. Harvender, Henry J. Lewis, S. B. Rich,	Provincetown,	–	138	151,275	3,362,227	2,098	303
Avard L. Smith,	Revere,	–	–	–	271,980	134,800	–
Isaiah Spindell, Robert Perry,	Sandwich,	–	16	4,000	10,400	–	–
Chas. P. Jones & Co.,	Swampscott,	–	–	–	285,900	–	–
Albert E. Douglass,	Salem,	–	–	13,530	–	400	–
Bartimus Luce,	Squibnocket,	–	18	1,142	–	6,496	1
Warren Cove Weir Co.,	Sagamore,	–	28	–	52,100	9,255	–
Geo. H. Simmons, F. W. Luther,	Somerset,	–	–	2,927	–	–	–
Edward Cottle, Wm. L. Pease & Co., Obed S. Daggett, Hiram N. Luce, Jason Luce & Co., E. A. Davis,	Tisbury,	–	226	33,349	14,882	18,623	694
David Blatchford, Parker L. Paine, Akins Hughes, Wm. F. Baker, S. B. Atwood, N. B. Rich, D. B. Rich, R. A. Rich,	Truro,	2	2,736	515,020	7,811,048	8,774	–
John R. Walker, O. D. Bradley, Norton & Peakes, W. D. Cleveland & Co., C. B. Cleveland,	Vineyard Haven,	–	5	45,800	6,820	11,179	–
Isaiah Spindell, Prince M. Stuart, Wm. N. Davis, John Rogers, C. B. Coombes,	Woods Holl,	–	28	40,944	–	105,360	96
Theodore Brown, Wm. P. Doane, N. B. Rich,	Wellfleet,	–	3	4,000	445,223	5,250	–
Roland Kelley,	Yarmouth,	–	65	–	–	3	31
Totals, 105,		9	6,754	1,378,703	15,361,317	1,152,174	1,849

Pounds and Weirs — Concluded.

Scup.	Squeteague.	Kingfish.	Sea Bass.	Butter-fish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
781	794	68	9	2,839	179	1,360	-	188	274	1,267	83,333	13
-	-	-	-	4,916	-	162,503	-	41	-	282	5,290	16,688
-	-	-	-	4,171	-	116,729	-	-	42	1,740	29,250	2,500
-	-	-	-	-	-	88,166	-	-	-	-	-	-
111	1	-	2	2,156	-	458,692	19	247	62	14,161	335,684	11,930
-	-	-	-	-	-	55,264	-	-	-	-	6,000	-
-	-	-	-	500	-	127,548	-	50	827	-	94,700	205
-	-	-	-	335	-	92,329	-	400	-	-	-	-
-	-	-	-	358	-	46,045	-	-	-	-	-	-
7,624	15,665	5	2,300	414	111	667	1	27	43	2,636	5,145	
-	-	-	-	-	-	138,580	-	36	160	-	90,000	
-	-	-	-	-	-	-	-	-	-	-	-	75,981
14,675	42,342	134	2,630	1,958	2,785	6,377	201	676	1,186	6,097	89,824	136
29	2,000	1	-	16,382	3	1,734,628	1	4,091	1,196	48,489	509,218	16,667
9,392	8,441	-	396	4,994	1,020	89,922	-	166	603	13,444	34,820	-
27,308	21,051	13	1,043	11,795	125	25,534	32	154	3,273	1,349	31,246	5,775
-	-	-	3	-	-	73,700	-	2,141	615	519	53,500	-
-	-	-	-	-	-	11,141	-	-	-	1,500	-	-
394,224	300,875	1,270	71,223	571,576	6,088	4,127,338	269	14,799	28,715	195,643	2,086,309	592,438

Comparison of Returns for the Years 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893 and 1894.

Year.	Fisheries. Kind.	No.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
1882,	Pounds and weirs,	85	27,769	1,420,919	1,201,449	8,102	4,219	1,991,480	67,266	3,289,512	310	133,805	40,512	114,843	4,016	-
1883,	" "	87	5,994	1,250,263	339,116	4,048,022	2,876	1,848,583	92,671	4,756,490	246	60,182	35,481	184,387	5,361	-
1884,	" "	93	5,392	715,886	2,806,203	308,381	6,950	1,641,129	74,826	1,440,486	99	109,694	23,929	288,930	33,980	-
1885,	" "	80	18,088	1,066,148	6,564,619	6,255	1,365	1,240,630	17,746	2,643,190	24	32,575	47,231	317,082	7,741	128,698
1886,	" "	58	15,874	1,012,802	1,364,684	48,910	2,412	1,966,243	3,226	1,290,466	20	17,315	47,490	261,595	11,570	572,334
1887,	" "	62	14,044	1,453,820	1,713,846	127,951	1,233	2,153,504	15,742	1,069,609	109	44,204	89,075	304,492	7,615	812,810
1888,	" "	83	50,057	1,054,607	6,665,698	1,202,777	2,455	1,448,451	127,602	2,877,768	115	38,376	63,214	358,917	10,805	2,716,892
1889,	" "	103	25,591	1,417,950	17,000,308	1,203,669	4,924	1,331,673	36,043	825,152	524	17,287	69,719	289,993	20,163	1,859,924
1890,	" "	88	22,961	1,198,561	4,432,690	2,911,970	5,302	354,423	43,988	1,297,264	1,242	60,633	25,637	210,476	9,180	958,872
1891,	" "	87	26,587	2,039,107	10,643,504	1,976,856	1,413	3,160,446	98,749	3,045,814	323	28,355	33,476	389,416	17,511	569,794
1892,	" "	83	14,658	1,031,160	15,739,505	124,917	1,410	2,421,985	70,085	4,706,233	47	16,296	45,881	346,772	8,069	1,588,890
1893,	" "	99	13,440	816,841	16,895,378	1,615,025	561	2,216,406	304,896	2,283,685	2,011	15,842	34,894	284,122	2,643,123	1,419,042
1894,	" "	105	6,754	1,378,703	15,361,317	1,152,174	1,849	394,224	300,875	4,127,338	269	14,799	28,715	195,643	2,086,309	1,242,595
1888,	Traps, fykes and irregular returns,	8	-	5,150	252,685	7,750	-	-	-	288,466	-	-	-	3,123	3,544	-
1889,	Traps, fykes and irregular returns,	15	2,994	89,516	1,212,942	184,239	64	86	54	64,938	13	2,690	339	2,246	2,060	76,073
1882,	Gill nets and sea seines,	133	1,738	424,630	310,611	633	1,427	99,046	4,205	587,087	87	191,668	6,245	33,487	3,033	-
1883,	" "	112	26	41,996	79,689	937,627	838	6,254	1,102	392,535	4	131,815	966	12,681	1,755	-
1884,	" "	85	6,544	67,312	541,689	1,526	632	7,855	3,254	216,829	6	136,068	1,578	19,031	2,426	-
1885,	" "	78	444	117,674	82,151	9,546	601	26,854	1,656	183,156	1	101,371	233	30,948	967	5,454
1886,	" "	49	22	397,727	151,782	311	1,524	13,019	42	75,463	9	32,343	1,039	14,592	21,670	17,326
1887,	" "	35	801	347,109	779,211	57	601	676	2,586	177,401	3	22,018	457	14,206	30,416	4,708
1888,	" "	142	92,010	468,934	734,374	94,310	1,349	7,704	2,027	633,627	2,172	199,546	1,314	30,738	18,701	52,049
1889,	" "	208	4,533	401,445	357,054	202,094	1,421	4,062	4,545	271,017	157	55,718	2,576	35,745	199,360	80,008
1890,	" "	183	1,448	174,213	686,948	239,474	1,980	2,289	1,141	209,863	1,488	181,401	754	29,950	81,979	94,448
1891,	" "	94	8,308	161,363	315,641	43,624	229	489	535	163,750	89	55,254	80	26,824	10,336	24,324
1892,	" "	91	214	444,024	967,567	1,827	422	1,938	260	688,119	1	48,100	59	75,614	14,220	23,711
1893,	" "	121	910	291,481	1,120,514	52,495	1	141	1,391	301,368	71	56,381	75	66,377	382	106,561
1894,	" "	183	409	184,393	956,130	496,704	358	13	1,450	766,573	1,182	85,342	203	61,238	7,876	18,406
1882,	Connecticut River seines,	3	2,770	-	-	-	-	-	-	-	-	-	-	-	-	-

| | | |

Comparison of Returns for the Years 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893 and 1894 — Concluded.

Year.	Fisheries. Kind.	No.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
1891, .	Other fresh-water seines, .	9	–	1,251,994	–	–	–	–	–	–	–	–	–	–	–	–
1892, .	" " " .	5	–	794,936	–	–	–	–	–	–	–	–	–	–	–	–
1893, .	" " " .	5	–	545,613	–	–	–	–	–	–	–	–	–	–	–	–
1894, .	" " " .	9	7	1,003,947	–	–	–	–	–	–	–	–	–	–	–	–
1882, .	Total returns, . . .	261	44,734	4,446,280	1,512,060	8,735	5,929	2,090,526	71,471	3,876,599	397	325,473	46,757	148,330	7,049	–
1883, .	" " . . .	239	15,160	4,178,682	418,605	4,985,649	5,080	1,854,337	93,773	5,149,025	250	191,997	36,807	197,068	7,116	–
1884, .	" " . . .	205	17,699	2,353,781	3,347,892	309,907	7,582	1,648,984	78,080	1,657,315	105	245,762	30,507	307,971	36,406	–
1885, .	" " . . .	184	25,347	3,747,750	6,546,770	15,801	1,881	1,267,484	19,402	2,826,346	25	133,946	47,464	348,030	8,708	134,152
1886, .	" " . . .	124	19,466	3,183,741	1,520,466	49,221	3,936	1,979,262	3,268	1,395,850	29	55,031	48,678	276,187	58,872	590,659
1887, .	" " . . .	112	19,292	3,108,642	2,345,632	97,510	1,833	2,144,973	18,357	1,057,565	112	66,422	89,065	320,220	50,071	818,639
1888, .	" " . . .	264	149,200	3,767,929	7,669,493	1,556,036	3,275	1,672,610	129,850	3,801,393	2,489	240,874	70,523	432,710	40,634	2,875,420
1889, .	" " . . .	352	40,461	3,617,929	14,919,159	4,326,352	6,414	1,335,821	40,642	1,161,107	694	75,695	72,634	327,984	221,583	2,015,993
1890, .	" " . . .	291	29,303	3,038,920	5,482,120	6,931,804	7,282	356,712	45,130	1,507,617	2,730	242,034	26,391	240,920	102,789	1,112,320
1891, .	" " . . .	202	37,346	4,954,822	11,108,745	4,500,052	1,642	3,160,935	99,284	3,209,564	412	83,609	33,556	416,240	83,977	594,118
1892, .	" " . . .	193	16,928	3,179,923	17,241,072	126,744	2,273	2,423,923	70,345	5,394,352	48	64,396	45,940	423,541	38,194	1,620,997
1893, .	" " . . .	235	18,474	4,155,576	19,760,292	4,277,520	562	2,216,547	306,287	2,585,086	2,082	72,223	34,969	350,749	2,643,505	1,598,571
1894, .	" " . . .	309	12,684	5,693,300	16,321,847	1,652,078	2,207	394,237	302,325	4,893,911	1,451	100,141	28,918	256,881	2,094,185	8,914,569
	Increase of 1885 over 1884, .	–	7,648	1,393,969	3,198,878	–	–	–	–	1,169,031	–	–	16,957	40,059	–	–
	Decrease of 1885 below 1884,	21	–	–	–	294,106	5,701	381,500	58,678	–	80	111,816	–	–	27,698	–
	Increase of 1886 over 1885, .	–	–	–	–	33,420	2,005	711,778	–	–	4	–	1,214	–	50,164	456,507
	Decrease of 1886 below 1885,	60	5,881	564,009	5,026,304	–	–	–	16,134	1,430,496	–	78,915	–	71,843	–	–
	Increase of 1887 over 1886, .	–	–	–	825,166	48,289	–	165,711	15,089	–	83	11,391	40,387	44,033	–	227,980
	Decrease of 1887 below 1886,	12	174	75,099	–	–	2,103	–	–	338,285	–	–	–	–	8,801	–
	Increase of 1888 over 1887, .	152	129,908	642,287	5,323,861	1,438,526	1,442	–	111,493	2,743,828	2,377	174,452	–	112,490	–	2,556,781
	Decrease of 1888 below 1887,	–	–	–	–	–	–	472,363	–	–	–	–	18,542	–	9,437	–

Increase of 1889 over 1888, .	88	–	–	12,249,666	2,790,316	3,139	–	–	–	–	–	2,111	–	180,949	–
Decrease of 1889 below 1888,	–	108,739	150,000	–	–	–	336,789	89,208	2,640,286	1,795	165,179	–	104,726	–	859,427
Increase of 1890 over 1889, .	–	–	–	–	2,605,452	868	–	4,488	346,510	2,036	166,339	–	–	–	–
Decrease of 1890 below 1889,	61	11,168	579,009	14,437,039	–	–	979,109	–	–	–	–	46,243	87,064	118,794	903,673
Increase of 1891 over 1890, .	–	–	1,915,902	5,626,625	–	–	2,804,223	53,754	1,701,947	–	–	7,165	175,320	–	–
Decrease of 1891 below 1890,	89	2,492	–	–	2,431,752	5,640	–	–	–	2,318	158,425	–	–	18,812	518,202
Increase of 1892 over 1891, .	–	–	–	6,132,327	–	631	–	–	2,184,788	–	–	12,384	7,301	–	1,026,879
Decrease of 1892 below 1891,	9	20,418	1,774,899	–	4,373,252	–	737,012	28,939	–	364	19,212	–	–	45,783	–
Increase of 1893 over 1892, .	42	1,546	975,653	2,519,220	4,150,776	–	–	235,942	–	2,034	7,827	–	–	297,805	–
Decrease of 1893 below 1892,	–	–	–	–	–	1,711	207,376	–	2,809,266	–	–	10,971	72,792	–	22,426
Increase of 1894 over 1893, .	74	–	1,537,724	–	–	1,645	–	–	2,308,825	–	27,918	–	–	–	7,115,998
Decrease of 1894 below 1893,	–	5,790	–	3,438,445	2,625,442	–	1,822,310	3,962	–	631	–	6,051	93,868	549,320	–

SUPERINTENDENT'S DWELLING — Sutton, Mass.

STATE HATCHERY —Sutton, Mass.

PUBLIC DOCUMENT . . . . . No. 25.

REPORT OF THE COMMISSIONERS

ON

INLAND FISHERIES AND GAME

FOR THE

YEAR ENDING DECEMBER 31, 1895.

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Commonwealth of Massachusetts.

To His Excellency the Governor and Honorable Council.

The Commissioners on Inland Fisheries and Game respectfully present their thirtieth annual report.

Fishways.

The fishway at Lawrence, owing to the partial decay of the upper part, was severely injured by the heavy freshet of last spring. As soon as the water was sufficiently low it was repaired, and the entrance at the lower end greatly improved, and, unless some unforeseen accident should occur, it will not require any further expenditure for some time.

We regret to say that the dam at Sewell's Falls, N. H., has not been provided with a suitable fishway. The consequence is that no migratory fish have been able to pass this dam since it was built, about three years ago. Many of the salmon, finding that they could not reach their spawning grounds on the Pemigewasset River, turned back, and more or less of them went up the Soucook River below Concord, where some were allowed to cast their spawn, while many were reported to have been killed by lawless fishermen. The agent of the United States Commission, who visited the Soucook River last summer, for the purpose of investigating the place for the establishment of a United States hatchery, found reliable evidence not only of their spawning in the lower part of the river but also of their destruction.

When we recall the aggressive message of a former governor of New Hampshire, complaining that Massachusetts had deprived his State of migratory fish by impassable dams at Lawrence and Lowell, we regret to find so little appreciation of the efforts of this State to restore the fish.

Holyoke Fishway.

The Holyoke Water Power Company appeared before the last Legislature and asked to be exempted from building a fishway over or around their dam. They put in evidence that the fishermen on the lower part of the river had almost entirely destroyed the migratory fish; if any were left, they could not reach their dam, in consequence of the impassable dam at Windsor Locks, in Connecticut; and that there was no present demand for a fishway. The commission could not deny these statements, but they appeared at the hearing and asked that the rights of the State should be conserved, and the company should not be relieved from building a fishway whenever the State might demand one for the public good. This the company agreed to, and a bill to that effect was drawn and offered in the Senate by Senator Whitcomb of Holyoke, he being one of the committee on fish and game. The following is a copy of said bill: — .

[Senate No. 79.]

An Act to exempt the Holyoke Water Power Company from maintaining a Fishway in its Dam at Holyoke.

Be it enacted, etc., as follows:

The Holyoke water power company is hereby exempt from maintaining a fishway in its present dam at Holyoke, or in such dam as it may hereafter build, until otherwise provided by act of the legislature, the right being hereby reserved to require the said company to construct and maintain such fishways as the legislature may at any time hereafter order or direct.

Without the knowledge of the commission, who supposed that the company would keep their agreement, a different bill was passed through the Legislature, under the supposition that it was the bill originally agreed upon. We corresponded with Senator Whitcomb, asking him to explain why the change was made, and received the following reply: —

Holyoke, Mass., Nov. 25, 1895.

Hon. E. A. Brackett, *Winchester, Mass.*

Dear Sir: — Yours of the 22d at hand. In reply I will say that I have no knowledge of why the bill was changed; think it must have been a mistake in the clerical work somewhere. The original draft of the bill must be in possession of the proper parties at the

State House, and it will be found to be in my own handwriting, and in that form was accepted by yourself, Judge Wells and the committee. Judge Wells, for the Water Power Company, made no objection to having the State maintain its right to order a fishway built in the Holyoke dam whenever it seemed for the public good, and the bill was framed with that intent; the company were satisfied with it and with the wording as you saw it, and accepted it.

I repeat that I cannot account for the change except as an error in the clerical work, as none of the parties interested desired a change.

Yours truly, M. H. Whitcomb.

We recommend that the bill be either repealed or so amended as to carry out the agreement with the company.

Merrimac River.

We regret to say that the laws protecting the shad and alewife in the Merrimac River, below Haverhill, during their spawning season, were repealed by the last Legislature. Neither the able message of the governor nor the advice of the commissioners availed against the persistence of the promoters of this act. The members of the Legislature were led to believe that a large number of fishermen and their families were dependent upon the repeal of these laws. A more misleading statement could not possibly have been made.

Not a single fisherman who had ever made a living by fishing in the river appeared before the legislative committee asking for the change. Even if there had been a considerable number of fishermen so unwise as to demand the repeal, the time-honored policy of the Commonwealth and of the whole civilized world, of protecting fish during the spawning season, without which no fisheries can be maintained, should have settled the question without debate.

Previous to the repeal of this law, the United States Commission had offered to restock this river by putting in several millions of young shad yearly, and Congress had passed an act appropriating money to investigate the feasibility of establishing a United States hatchery on the upper part of the Merrimac. Finding that our Legislature refused to protect the spawning shad, the offer to restock the river was withdrawn, and the establishment of the hatchery is still in abeyance.

Salmon in the Merrimac.

Salmon did not appear at the Lawrence fishway this year until late in the season. The first one seen was on the 25th of June. While the run was small in the spring, the fall run was larger than has been known since the river was stocked. Several were taken with rod and fly below the Lawrence dam.

The efforts to restock this river with salmon will form an interesting chapter in the history of fish culture, and their success or failure will depend entirely upon the protection given them throughout the entire length of the river. Had they been properly protected, the river would now be full of them, and both States would annually receive thousands of dollars from anglers who now go to the Provinces in pursuit of this fish.

Trout.

Last winter we received five hundred and forty thousand trout eggs at the Winchester hatchery. Of this number one hundred thousand were lake trout, donated to the State by the United States Commission. They were hatched and distributed as recorded in the supplement. Owing to the success in restocking our depleted waters, the demand for trout fry is increasing, and we should have a much larger supply. Should there be no accident in hatching and caring for them, there will be an increased number for applicants next spring.

White Perch (*Roccus Americanus*).

We have several applications on our books for white perch, but, owing to the lack of funds, are obliged to defer them till next year.

Carp (*Cyprinus Carpio*).

Nine applicants were supplied with from fifty to sixty fingerling carp each, and one with a few larger ones.

State Hatcheries.

Joint Hatchery, Plymouth, N. H.

The New Hampshire Legislature at its last session passed a resolve, and soon after a similar one was passed by the Massachusetts Legislature, looking to a separation of the joint inter-

ests of the two States in the hatchery at Plymouth, N. H. Negotiations are now pending which will probably relieve this State from any further responsibility in the control of these works.

Sutton Hatchery.

The new hatchery at Sutton has been thoroughly renovated, and a new superintendent placed in charge.

About 640,000 eggs have been taken this fall, and there appears to be no reason why the central and western parts of the State should not be supplied from this place.

Winchester Hatchery.

The State hatchery at Winchester needs rebuilding; it cannot be safely run another season. As a centre of distribution for the southern and eastern part of the State, it is desirable that its location should not be materially changed.

The principal part of this hatchery was built by the present chairman of the Board, at his own expense (for which no reimbursement has ever been made), before he was on the commission, and, with the exception of a small addition and occasional repairs, has never cost the State anything except the running expenses, which have been slight. From this hatchery an average of about six hundred thousand fish have been distributed annually over the State, — over fifteen million in all.

As the house must either be rebuilt or abandoned, we recommend that it be rebuilt a few rods below its present location, on land belonging to the State and under the charge of the Metropolitan Park Commission, and that a sufficient sum of money be appropriated to build a house worthy of the location.

LOBSTERS.

The artificial hatching of lobsters was carried on at the United States fisheries station, Wood's Holl, Mass., with results as given in the following report: —

Hon. E. A. BRACKETT, *Chairman Board of Commissioners of Fish and Game, Winchester, Mass.*

DEAR SIR: — At the request of Acting United States Commissioner of Fisheries H. A. Gill, I had my appointment as deputy fish and

game warden for Massachusetts renewed for the year ending Jan. 15, 1896.

This appointment carried with it the right to purchase egg-bearing lobsters for the use of the United States Fish Commission station, Wood's Holl, Mass., with the understanding that the said lobsters, after being deprived of their eggs, shall be returned to the water alive.

I beg to make the following report on the lobster work at this station for the season ending June 30, 1895 : —

Between April 15 and June 30, a period of two and one-half months, 5,500 egg-bearing lobsters were collected that yielded 81,800,000 eggs and produced 71,000,000 fry, or 86.8 per cent. hatched of all the eggs taken. The fry were liberated from twelve to forty-eight hours after hatching, in Vineyard Sound and Buzzard's Bay, except 2,600,000 eggs that were hatched under natural conditions, from the brood lobsters that were housed up in a couple of fish cars off Cuttyhunk and Penekese, June 21, and the fry liberated at those points.

The following points furnished egg-bearing lobsters : —

Cuttyhunk,	1,640	Cedar Tree Neck,	159
Wood's Holl,	1,094	Menemsha Bight,	147
Robinson's Hole,	974	Tarpaulin Cove,	100
New Bedford,	832	South Dartmouth,	110
Penekese,	345	Hadley Harbor,	94

I desire to say that the lobsters furnished at New Bedford and Tarpaulin Cove were caught in deep water some ten or twelve miles off No Man's Land, coast of Massachusetts, and brought to New Bedford in smacks.

Of the 5,500 lobsters taken, they averaged 14,872 eggs each. All the lobsters were returned to the water alive after the eggs were removed. The apparatus used in the hatching of these eggs was the McDonald Universal hatching jar, which answers the purpose admirably.

Very respectfully, JOHN MAXWELL,
Superintendent United States Fisheries Station,
Wood's Holl, Mass.

In the Appendix of our last year's report it was stated that our experiments in hatching lobsters showed that, with proper arrangements, it was easy to hatch them by millions, but such an arrangement would require a hatching house, with machinery for lifting the water so that there would be a constant flow over the eggs ; and that the young lobsters could be kept in confine-

ment only a few days, after which they either destroyed each other or died from starvation. No efforts yet made to feed them have succeeded, and, however successful one may be in hatching them, they should be let loose at once to take their chances in the open sea. Egg-bearing lobsters put in boxes, properly prepared and floated in sheltered places, demonstrated the fact that there were no unimpregnated eggs. All hatched at about the same time. Whether they are impregnated before or after the eggs are laid has not yet been positively determined.

These experiments were carefully and scientifically made with a large number of egg-bearing lobsters and several millions of eggs. It should be remembered that the female carries her eggs in a way that protects them from their enemies, and that after they are hatched the shells remain attached to the swimmerets for several days, and that it is easy to detect the lobsters whose eggs have been recently removed by violence. An examination of hundreds of lobsters with egg shells attached taken from the traps shows that whether in the open sea or in confinement the eggs all hatch.

If these investigations are to be relied on (and they must stand until further investigation proves that they are in error), it does not seem possible that any advantage is to be derived from artificial hatching except in localities where the egg-bearing lobster is not protected by law. The advantage of artificial hatching of fish applies only where, under certain conditions or circumstances, impregnation is defective, or where the eggs are exposed to danger during incubation, and where the fry can be easily transported to stock other waters.

Learning that the experiment had been tried of hatching the eggs in the natural way, from brood lobsters confined in cars, we addressed a note to Mr. Maxwell, and received the following reply: —

Dear Sir: — In reply to your letter of the 19th inst., in reference to lobster hatching under natural conditions: in my report to you on the work of lobster hatching at Wood's Holl station during the season of 1895 I mentioned that 2,600,000 lobster eggs were hatched under natural conditions; that they were hatched from a number of brood lobsters housed in live-fish cars off Cuttyhunk and Penekese. The brood lobsters were caught by the local fishermen of that vicinity and

placed in the Fish Commission cars between June 11 and 21. Some of the lobsters had their eggs well advanced, I will say hatching, when placed there. As the season was well advanced, it took but a short time to hatch them all.

On June 21 our steam launch made a trip to these places, to collect and bring to the station what egg lobsters we found We found those cars full of fry that had hatched from the brood lobsters. Examined the lobsters and found nothing but the shells of the eggs attached to the swimmerets. I could not say what per cent. hatched; I only estimated the number.

Very respectfully, JOHN MAXWELL,
Superintendent.

Further investigations may be required to ascertain the advantage or disadvantage of artificial hatching of lobsters, but so far the experiments do not warrant its continuance except in localities where the egg-bearing lobster is not protected.

Of the 81,800,000 eggs secured at the Wood's Holl station, 71,000,000 were hatched and turned loose, leaving a loss of over 10,000,000, that, according to evidence thus far obtained, would have hatched if they had been left on the lobsters in the open sea. All scientific experiments must in the end be tested by their practical results.

In the energetic efforts which are being made throughout the civilized world to preserve the fisheries, and if possible meet the increasing demands, the one great underlying principle seems to have been lost sight of. The wholesale destruction of the young fish, which is everywhere more or less permitted, is to a great extent the cause of the depletion of the fisheries. In order to maintain them, the fish should be allowed to mature sufficiently to cast their spawn, at least once. This is so self-evident to every reflective mind that it is difficult to understand why the more intelligent portion of the fishermen do not unite, in their own interest, to lessen as far as possible this tendency to the destruction of their means of support.

The objection to weirs and traps is not in the adult fish they take, but the wholesale destruction of immature fish. The rapid growth of public sentiment against these methods of fishing is unjust, inasmuch as it seeks their removal instead of regulating them.

Lobsters do not belong to the great ocean fisheries, but are bay or estuary fish, semi-migratory, and very limited in their

range; and the consequence is that they are easily depleted by over-fishing or by non-observance of laws for their protection. The statistics for the last six years of the egg-bearing lobsters, upon which the continuance of the species depends, indicate with much certainty the results that are likely to follow the present methods of fishing; and unless the marketable size is so regulated as to give them a chance to deposit their spawn at least once in their lifetime, and the lawless destruction of young lobsters is stopped, it is only a question of a few years when there will be none worth fishing for.

The lobstermen are often governed by what appear to be their immediate wants, regardless of the future, and, inasmuch as the industry is to a certain extent drifting into the control of foreign-born fishermen, many of whom cannot read or write, reliable information to lay before the legislative committee is not always obtainable.

We beg leave to suggest that there are two sides to the question. The public have a right to demand that this important industry shall not be destroyed, and that the Legislature should protect the public as well as the fishermen.

Your commission have repeatedly called the attention of the Legislature to this matter, and have, so far as their means would allow, enforced the laws. They regret to say, however, that many of the lobstermen have continually violated the law. It is not easy to understand this perversity of character, or why these hardy fishermen should so persistently seek to destroy their means of support. There is no trick or device that they will not resort to in order to evade the law. Tails are broken off from small lobsters and peddled out to beach houses and summer hotels. Thousands of short and egg-bearing lobsters are secreted in cars, sunk in out-of-the-way places, awaiting transportation on smacks from other States, which run in at night, take them aboard and by daylight are outside of the jurisdiction of this State. These violations are carried on extensively in New Bedford harbor, No Man's Land, Cuttyhunk, Robinson's Hole, Menemsha Bight and elsewhere along Vineyard Sound.

Weirs, Pounds and Nets.

The returns show a marked increase in the catch of sea herring, scup, bluefish and tautog, with a corresponding decrease in mackerel. As the weirs located in Massachusetts Bay depend largely upon mackerel for a remunerative business, the small amount taken has made it an unprofitable season.

There have been large quantities of sea herring taken. With an abundant supply, it has enabled the deep-sea fishermen to obtain their bait at very low prices. The cold-storage buildings were filled early in the fall, thereby insuring a supply of herring until the winter catch arrives from Newfoundland, which usually is the last of December.

State Steamer.

After painting and the necessary repairs were completed on hull and machinery, the steamer was put in commission May 28. Of the one hundred and thirty days she was in commission, one hundred and seven days she patrolled Buzzard's Bay, and laid up for inspection and repairs four, on marine railway two, attending to violation of lobster laws and other duties seventeen.

Captain Proctor seized 21,024 short and 200 egg-bearing lobsters, arrested and convicted four persons for illegal fishing.

First menhaden steamers came into the bay August 7, and then continued to run in occasionally and look over the bay until October 1, which was the last seen of them. Menhaden left the bay October 3, and no fish were seen after that date.

Steamers were reported fishing while the "Ocean Gem" was on railway, painting, and again while at New Bedford undergoing her annual United States inspection; also on August 16, while the steamer was out of the bay attending to other duties.

Immediately on the receipt of this information by the commissioners, Captain Proctor was instructed not to leave the bay under any consideration, and to keep the steamer patrolling the bay at all times, and no further complaints were received.

It is well known that there is no law prohibiting steam or sailing vessels from passing through or sailing in any State waters, either for pleasure or business; so, if menhaden or other vessels desire to run through or about Buzzard's Bay and

to anchor on account of storms or high winds, there is nothing to prevent them from doing so; hence, if menhaden steamers are seen about the bay, it does not follow that they are fishing.

The steamer appears, with some necessary repairs to her hull and machinery, to be in good condition to do the work required of her another season. She was laid up at a safe dock in New Bedford, October 6, for the winter.

Game.

The law protecting quail during the entire year of 1894 has had a marked influence on their increase. They are reported plenty in all sections of the State this fall, showing conclusively the advantage of a shorter open season.

The ruffed grouse or partridge, partly through climatic conditions and partly from stringent enforcement of the law, has also been more abundant than for several years past.

The open season for these birds commences the 15th of September, and for quail the 15th of October. Owing to the lawlessness of many sportsmen, this practically makes the open season for both birds the same, and renders it almost impossible to enforce the law for the protection of quail. The open season should be the same for all our inland game.

An instance, and a marked case, showing the results of protection, is found in the Middlesex Fells. This section, containing several thousand acres of wild uncultivated land, was formerly one of the best shooting grounds in the State, but its close proximity to Boston, giving easy access to both native and foreign born sportsmen, led to its depletion. Two years ago, when the Metropolitan Park Commission took possession, there were a few partridges in it; probably not one but had been shot at at least a dozen times. The two years' protection has made a great change. No shooting or snaring is allowed in the park, and the increase of game is remarkable. The same increase all over the State would provide recreation for overworked men, and also supply a considerable amount of very desirable food.

The laws of Maine for the protection of fish and game, especially for the large game, are stringent and well enforced, and the consequence is that hundreds of thousands of dollars are annually expended in that State by sportsmen and tourists

from other States. No small amount of this comes from Massachusetts, which, by well-regulated laws strictly enforced, could, at least much of it, be retained at home. Certainly healthy recreation and excellent food could thus be provided for those who have not the means to go to the wilds of Maine and New Hampshire.

The last Legislature of Maine placed thirty thousand dollars at the disposal of her commissioners for the protection and propagation of fish and game. As a financial investment for the benefit of the State, this appropriation was not called in question.

If we may judge by the numerous communications received by this Board from all parts of the State, public opinion is ahead of legislative enactments. In one sense fish and game cost nothing, as they are the products of land and water which otherwise would not be utilized, and are so much clear gain in the economy of living. It has, however, a still more important bearing on the welfare of the State. Land without game or bird life, and water without fish, are a desolation and destruction of the balance of nature. It means the swarming of noxious insects, fatal to agricultural products, and the existence of myriads of animalculæ and larvæ in the water, constantly decaying and rendering the water unfit for use. In its sanitary and economic effect on human life the importance of maintaining this balance of nature cannot be overestimated.

Mongolian Pheasant.

The efforts of Mr. Forehand to obtain a further supply of breeding pheasants were not successful until late in the spring. The law in Oregon, forbidding the sending of pheasants out of the State, under severe penalty, was, through Judge Denny (at the suggestion of Mr. Forehand), so amended that, with the permission of the State game warden, commissioners of other States could obtain birds for breeding. This did not, however, allow the trapping of wild birds, and the few in the hands of breeders were not easily obtained, as the amendment in the law led them to believe that there would be a demand for them, and they were not willing to part with them at any price.

It was Mr. Forehand's intention to place in the hands of the chairman of this commission a sufficient number of breeding birds to stock the State, provided the State would assist in the work; otherwise they were to be under the control of the chairman, to be used at his discretion. Mr. Forehand instructed his agent to procure the birds, regardless of expense, and the last of April twelve Mongolian pheasants, three male and nine female, reached Winchester.

We were informed that these birds commenced laying in March, and their long journey of ten days (being delayed by wash-outs on the road) so demoralized them that it took some time to recuperate, and they did not resume their laying until quite late in the season, and then gave but a small number of eggs. The four small female birds received in August of the year before and one from Mr. Robertson of New Haven, Conn., gave more eggs than the nine received in April. All this materially lessened the number of young pheasants that might otherwise have been secured.

We were unable to obtain any considerable number of Pekin bantam hens for sitters, and most of the hens used for that purpose were game bantams, which proved good mothers to their own chicks, but very cruel and destructive to any that did not belong to them. The coops and yards being all alike and necessarily set near together, intermingling of broods could not be prevented, and many chicks were killed after they were three or four weeks old. This would not have occurred if we could have had Pekin instead of game bantams.

The work of the last season was more or less an experiment, as our experience in raising the English pheasant did not avail with the Mongolian. Not having the arrangements completed for raising maggots, we fed the first broods on food known to be successful with the English, and had the misfortune to see the coop strewn with dead birds. As soon as we were able to supply them with maggots, the death rate ceased, and scarcely a bird was lost from food or disease of any kind. From that time to the close of the season the loss of birds was due mainly to game bantams and cats. The breeding grounds being situated on the outskirts of a thickly settled village, infested with cats, these marauders prowled around the large enclosure (sometimes into it), picking off the birds whenever they had a

chance. The gun was kept constantly within reach, and, so far as we know, no cat made a second visit.

Young Mongolians are very hardy after they are three weeks old, and at that age they began to fly over the high wire fence of the large enclosure into the garden and adjoining woods, and occasionally into private grounds in the upper part of the village, returning o the coops at night, until they were six or eight weeks old, when their return was less certain, often staying away from one to two weeks.

The large covered corral, twenty-eight by sixty feet in size, proved to be too open to retain the small birds, but could not be altered this season, and the only way birds could be secured for distribution was by trapping them when they came into the large enclosure to feed. In this way seventy-five or eighty have been secured, and many are still at large. As the grounds and woods in the vicinity appear to be suitable, it was thought best to allow a number to retain their freedom, in order to study as much as possible their winter habits.

We have so far watched these pheasants very carefully, and the statement of Judge Denny of Oregon, that they are of advantage to the farmer and horticulturist in destroying injurious insects without hurt to the crops, appears to be fully sustained. They are certainly most persistent in their search for all kinds of insects and their larvæ. They scratch but little, using their bills, which are well adapted to the purpose, to turn over the ground in search of food that does not come to the surface. Of the different kinds of caterpillar which have been abundant on the grounds, it is evident that few, if any, have been allowed to live long enough to change to a chrysalis or cocoon. On this ground, which is partly covered with forest and fruit trees, the gypsy moth is found, and about four hundred of the trees have been burlapped. Many of these trees are inside of the enclosure where the young birds were bred. The burlaps were turned once or twice a week, but no larvæ or cocoons were found except two larvæ of the gypsy moth. The chicks were often seen chasing each other, one having a caterpillar or insect in its bill. In two instances it proved to be the larvæ of the gypsy moth. Not even a frog was permitted to live on the ground. The large, dusky, mot-

tled worms, from one to two inches long, which infest walnut trees, were eaten with great avidity. The only thing we have known chicks to refuse was the larvæ of the potato bug. The full-grown birds were not quite so fastidious, and, if hungry, would eat them.

The Mongolian pheasant is untamable, quick in flight, very prolific, capable of defending its young, is excellent food, and, if it can be established here with anything like the success it has met with in Oregon, will be a great acquisition in the supply of food. The statement that they drive out other birds is not true. As to their hardiness and ability to stand the rough weather and cold of our winters there can be no doubt; the only question is, whether they will find food to tide them over the deep snows.

Knowing that Mr. W. L. Gardiner of Norwalk, O., near Cleveland, and Mr. Robertson of New Haven, Conn., had bred and turned out a number of these birds, we wrote to them on this point, and received the following replies: —

Norwalk, O., Sept. 17, 1895.

E. A. Brackett, Esq.

Dear Sir: —Replying to your favor of the 12th, would say there is no trouble about the pheasants standing any degree of cold. I would, however, recommend the feeding of them during deep snows in such places as they seem to congregate. They will bud if driven to it. They flock in cold weather like prairie chickens, and will come around the barns and stacks. Last winter was a good test, and we had birds come through all right that had no food or shelter given them. It depends largely on the cover you have. If you have dense timber and brush, they will go through nicely. There is no question of their increasing in their wild state, and very rapidly.

Write to me at any time, and I will do all I can for you.

Yours very truly, W. L. Gardiner.

New Haven, Conn., Sept. 16, 1895.

Mr. E. A. Brackett.

Dear Sir: — Your letter of the 12th received, inquiring if the birds turned out by me survived the winter. In reply would say that, so far as I can find, they stood the winter well. In fact, I do not think they feel the cold as much as our native game birds. The birds

I have in confinement were in a wire coop, without cover, all last winter, and did not seem to feel the cold weather we had.

I do not know if they bud on trees, but think they must, as they fly into the trees. The birds turned out by me were not fed last winter.

Yours truly, J. B. Robertson.

Judge Denny, who introduced them into Oregon, and who has studied them in their native climate, knowing them better than any other man in this country, says, "It is fair to conclude that they will thrive wherever the ruffed grouse is found."

The evidence we have obtained from others, as well as our own observations, leads to the conclusion that they will certainly succeed on the Cape and probably throughout the State. Give them the right conditions and food, and no bird is more easily bred.

There may be other food than the larvæ of the fly suitable for the artificial rearing of the Mongolian pheasant, but in our extensive investigations we have not found it, and it is doubtful if there is any other so cheap and available or so certain in its results.

If those to whom we consign pheasants for breeding cannot furnish this food for the chicks, the old birds had better be turned into the woods, leaving them to their natural instincts in breeding and rearing their broods.

The State plant for breeding next year is quite extensive, and, except for some small details, is completed. It consists of eight large aviaries, roofed over, for the old birds; one large covered corral, twenty-eight by sixty feet, capable of retaining two or three hundred young birds; and an enclosure of nearly an acre of land, covered with forest trees, grass, cultivated shrubs and plants, and fenced in with chestnut posts six feet high, upon which wire cloth is securely nailed, intended for the young birds to forage in. Inside of this enclosure are forty-three coops and small yards, used for breeding. In the large aviaries are nineteen full-grown Mongolian pheasants, from one to two years old. In the large corral are seventy or eighty young ones, raised this year, and a considerable number outside, having the freedom of the enclosure and the surrounding woods. There are also fifty-three game and mixed bantams

used for mothers this season, and one hundred and seven Pekin bantams, ninety-seven of which were raised on the grounds this year, and from which we intend to take our sitters hereafter. There is also a small, tight building with a tall ventilator, for raising and propagating food for the young birds.

In last year's report it was suggested that it would be a good plan for responsible parties, who are interested in this work, to build aviaries and breed and turn out in their respective localities. This suggestion has been adopted by a number of persons. Pheasants will be sent to them as soon as they are large enough to distinguish the sex, and the commissioners will give all necessary information that may be desired in regard to their care. This will save the delay that would naturally arise from putting out a few birds here and there. If the suggestion could be more generally carried out, and the Legislature should continue to aid in the work, the State would be rapidly stocked. In view of the probability — we might almost say certainty — that these birds will thrive here, adding much to our food supply, may we not hope that the farmer and sportsman, and all who love to see the fields and forests teeming with life, will co-operate in the introduction of one of the finest game birds in the world?

Nineteen permits were issued during the past year for the collection of birds and their eggs for scientific study. So far as we know, there has been no abuse of this privilege. It is gratifying to know that the craze for mounted birds on hats, which has been a fruitful source of destruction of song birds, has largely decreased.

Aside from the two or three paid deputies, which is all that the funds at our disposal will allow us, there are a number of deputies who are serving without pay, some of whom have done excellent work and are deserving of more than thanks for the efficient labor they have performed.

We recommend further legislation for the protection of lobsters, and an amendment of the laws for the better protection of fish and game.

E. A. BRACKETT.
I. C. YOUNG.
E. D. BUFFINGTON.

APPENDIX.

[A.]

List of Fish Commissioners.

The United States.

Commissioner, *vacant*.
Richard Rathbun, Assistant in Charge of Division of Inquiry respecting Food Fishes.
W. de C. Ravenel, Assistant in Charge of Division of Fish Culture.
Hugh M. Smith, Assistant in Charge of Division of Statistics and Methods of the Fisheries.
Herbert A. Gill, Chief Clerk and Acting Commissioner.

Alabama.

Col. D. R. Hundley, ... Madison.
Hon. Chas. S. G. Doster, ... Prattville.

Arizona.

T. W. Otis, ... Prescott.
John Howard, ... Prescott.
C. W. Stearns, ... Phenix.

Arkansas.

H. H. Rottaken, President, ... Little Rock.
W. B. Worthen, Secretary, ... Little Rock.
This State has never made an appropriation for fish culture.

California.

H. F. Emeric, President, ... San Francisco.
William C. Murdoch, ... San Francisco.
J. M. Morrison, ... Sacramento.

Colorado.

Gordon Land, ... Denver.

Connecticut.

Hubert Williams, President, . . . Salisbury (Lakeville P. O.).
Abbott C. Collins, Secretary, . . . 291 Main Street, Hartford.
James A. Bill, Treasurer, ... Lyme (Bill Hill P. O.).
The Shellfish Commissioners are: George C. Waldo, Bridgeport; Bryant A. Treat, Wallingford.

DELAWARE.

Charles H. Shubert, ... Odessa.
Dr. E. G. Shortlidge, Supt. of Hatcheries, . Wilmington.

GEORGIA.

R. T. Nesbitt, ... Atlanta.
Capt. J. D. Edmondson, ... La Grange.

ILLINOIS.

Richard Roe, ... East St. Louis.
Geo. H. Langford, ... Havana.
Henry Schmidt, ... Elgin.

INDIANA.

P. H. Kirsch, ... Columbia City.

IOWA.

Geo E. Delevan, ... Estherville.
Ole Bjorenson, Superintendent.

KANSAS.

O. E. Sadler, ... El Dorado.

MAINE.

Thos. H. Wentworth, ... Bangor.
Henry O. Stanley, ... Dixfield.
O. B. Whitten, Sea and Shore, . . . Portland.

MARYLAND.

G. W. Delawder, ... Oakland.
G. R. Rider, ... Salisbury.

MASSACHUSETTS.

E. A. Brackett, ... Winchester.
I. C. Young, ... Wellfleet.
E. D. Buffington, ... Worcester.

MICHIGAN.

Herschell Whitaker, President, . . . Detroit.
H. W. Davis, ... Grand Rapids.
Seymour Bower, Superintendent, . . Detroit.
Geo. D. Mussey, Secretary, . . . Detroit.
F. B. Dickerson, ... Detroit.

MINNESOTA.

W. S. Timberlake, ... St. Paul.
Wm. Bird, ... Fairmont.
W. P. Andrus, ... Minneapolis.
A. F. Ferris, Secretary, ... Brainerd.
F. von Baumbach, ... Alexandria.
S S. Watkins, Superintendent, . . . St. Paul.

MISSOURI.

H. M. Garlichs, Chairman,	St. Joseph.
J. L. Smith,	Jefferson.
Edw. Cunningham,	St. Louis.
A. C. Garlichs, Secretary,	St. Joseph.
Philip Kopplin, Jr., Superintendent,	St. Louis.
James W. Day, Superintendent,	St. Joseph.

NEBRASKA.

Joseph H. Blair,	Omaha.
William L. May,	Omaha.
R. H. Oakley,	Lincoln.
M. E. O'Brien, Supt. of Hatcheries,	South Bend.

NEVADA.

Geo. T. Mills,	Carson City.
Ernest Harris, Deputy,	Carson City.

NEW HAMPSHIRE.

W. T. Shurtleff,	Lancaster.
W. H. Griffin,	Manchester.
Nathaniel Wentworth,	Hudson.

NEW JERSEY.

George Pfeiffer, Jr.,	Camden.
Parker W. Page,	Summit.
W. Campbell Clark,	Newark.
Howard P. Frothingham,	Mt. Arlington.

NEW YORK.

Barnet H. Davis, President,	53 Broadway, New York.
Henry H. Lyman,	Oswego.
William R. Weed,	Potsdam.
Charles H. Babcock,	Rochester.
Edward Thompson,	Northport.
F. B. Mitchell, Secretary,	Albany.
Edw. Thompson, Shellfish Commissioner,	53 Broadway, New York.

OHIO.

H. B. Vincent, President,	McConnellsville.
Wm. R. Huntington, Secretary,	Cleveland.
J. W. Owens,	Newark.
B. F. Seitner,	Dayton.
E B. Shorb,	Van Wert.

OREGON.

H. D. M'Guire, Fish and Game Warden.

PENNSYLVANIA.

Henry C. Ford, President,	1823 Vine Street, Phila.
James A. Dale, Corresponding Secretary,	York.
H. C. Demuth,	Lancaster.
S. B. Stillwell,	Scranton.
Louis Streuber,	Erie.
D. P. Corwin,	Pittsburg.

RHODE ISLAND.

J. M. K. Southwick,	Newport.
William P. Morton, Secretary,	Johnston.
Henry T. Root, Treasurer,	Providence.
Chas. W. Willard,	Westerly.
A. D. Roberts,	Woonsocket.

SOUTH CAROLINA.

Hon. A. P. Butler,	Columbia.

TENNESSEE.

W. W. McDowell,	Memphis.
H. H. Sneed,	Chattanooga.
Edward D. Hicks,	Nashville.

UTAH.

A. Milton Musser,	Salt Lake City.

VERMONT.

John W. Titcomb,	St. Johnsbury.
Horace W. Bailey,	Newbury.

VIRGINIA.

Dr. J. T. Wilkins,	Bridgetown.

WASHINGTON.

James Crawford,	Vancouver.

WISCONSIN.

Edwin E. Bryant, President,	Madison.
Calvert Spensley, Treasurer,	Mineral Point.
William J. Starr,	Eau Claire.
Prof. E. A. Birge,	Madison.
Jas. J. Hogan,	La Crosse.
Geo. F. Peabody,	Appleton.
Currie G. Bell,	Bayfield.
Jas. T. Ellarson, Secretary, Fish and Game Warden,	Madison.

WYOMING TERRITORY.

Louis Miller,	Laramie.

[B.]

List of Ponds Leased

By the Commissioners on Inland Fisheries, under Authority given by Chap. 384, Sect. 9, of the Acts of 1869.

1877.

Oct. 1. Fort, Great Spectacle and Little Spectacle ponds, in Lancaster, to inhabitants of Lancaster, 20 years.

1879.

July 1. Fresh Pond, in Falmouth, to Thomas H. Lawrence, 20 years.

1881.

Jan. 1. Great and Job's Neck ponds, in Edgartown, to Amos Smith and others, 15 years.

April 1. Long Pond, in Blandford, to Samuel A. Bartholomew and another, 15 years.

May 2. Nonesuch Pond, in Weston and Natick, to W. A. Bullard and others, 15 years.

1882.

March 1. Blair's Pond, in Blandford, to Curtis M. Blair and another, 15 years.

April 1. Ward Pond, *alias* Wightman Pond, in Ashburnham, to Herbert F. Rockwood and another, 15 years.

May 1. Horn Pond, in Woburn, to inhabitants of Woburn, 15 years.

June 1. Wickaboag Pond, in West Brookfield, to inhabitants of West Brookfield, 15 years.

1883.

April 6. Fresh Pond, in Tisbury, to Allen Look and others, 15 years.

23. Keyes Pond, in Westford, to M. H. A. Evans, 15 years.

May 7. Singletary Pond, in Sutton and Millbury, to towns of Sutton and Millbury, 15 years.

7. The Great Pond, in Ashfield, to town of Ashfield, 15 years.

1884.

July 17. Farm Pond, in Cottage City, to John C. Hamblin and others, 15 years.

Aug. 30. Sand Pond, in Ayer, to inhabitants of Ayer, 15 years.

Sept. 5. Great Pond, in North Andover, to inhabitants of North Andover, 15 years.

[C.]

Distribution of Fish, 1895.

Lake Trout.

One hundred thousand lake trout eggs were received from Northville, Mich., which were hatched and distributed as follows: —

J. S. Nicholson, Hadway Pond, Hyannis.
A. S. Backus, Jones' and Long ponds, Centerville.
I. Crocker, Michael's Pond, Barnstable.
Henry Hanson, Watuppa Lake, Fall River.
A. C. Mott, Duck Pond, Wellfleet.
J. M. Stevenson, Pontusuc Lake, Pittsfield.
G F. Prevear, Spectacle Pond, Leominster.
C. H. Waymoth, Wachusett Lake, Westminster.
C. C. Peck, Whiting's Pond, North Attleborough.
W. H. Frost, Phillipston Pond, Athol.
C. H. Davis, Bald Pate Pond, Bradford.
G. R. Damon, Lake, Leominster.
Z. B. Godfrey, Great Sandy Lake, Plymouth.
Water Board, Reservoir, Winchester.

Brook Trout.

Three hundred and seventy-five thousand brook trout fry were distributed as follows: —

G. W Holbrook, for waters in Wellfleet.
J. S. Nicholson, for waters in Barnstable.
Israel Crocker, for waters in Osterville.
D. H. Robinson, for waters in North Attleborough.
J. F. Bowditch, for waters in North Pembroke.
J. J. Mahony, for waters in East Weymouth.
A. E. Lincoln, for waters in West Stoughton.
J. B. Peck, for waters in Wrentham.
G. B. Elliot, for waters in Lawrence.
C. H. Murray, for waters in Bradford.
A. J. Savory, for waters in Ipswich.
J. L. Fickett, for waters in Ipswich.
J. G. Blake, for waters in Ipswich.
A. L. Clark, for waters in Ipswich.
C. O. Abell, for waters in Ipswich.
C. A. Currier, for waters in Ipswich.
O. Stowell, for waters in Lynnfield.
N. M. Quint, for waters in Ipswich.
C. Smith, for waters in Chelmsford.
G. A. Coburn, for waters in Chelmsford.
G. L. Huntoon, for waters in Dracut.
C. A. Mitchell, for waters in Dunstable.
J. W. Whitman, for waters in Dracut.
T. G. Driver, for waters in Dunstable.
F. W. Forbes, for waters in Westborough.
J. W. Fairbanks, for waters in Westborough.
T. K. Parker, for waters in Winchendon.
G. Waite, for waters in Templeton.
S. S. Gleason, for waters in Gardner.
D. W. Hodgkins, for waters in North Brookfield.
N. Delano, for waters in North Brookfield.
I. Wedge, for waters in North Brookfield.

A. E. Snow, for waters in Spencer.
E. Stone, for waters in Spencer.
C. Hill, for waters in Dudley and Webster.
W. Abbott, for waters in Douglas.
H. A. Cobbett, for waters in Upton.
C. V. Dudley, for waters in Northbridge.
J. F. Cumming, for waters in Shrewsbury.
C. L. Allen, for waters in Worcester.
J. W. Robinson, for waters in Sturbridge.
G. W. Cook, for waters in Barre.
J. C. Bartholomew, for waters in Barre.
H. Allen, for waters in Barre.
P. Connor, for waters in Barre.
J. F. Barnes, for waters in Petersham.
J. F. Whitcomb, for waters in Athol.
C. W. Bates, for waters in Phillipston.
E. H. Spencer, for waters in Princeton.
C. H. Waymoth, for waters in Westminster.
H. F. Boutwell, for waters in Lunenburg.
W. H. Foote *et al.*, for waters in Westfield.
G. K. Thornton, for waters in Palmer.
C. D. Rood, for waters in Ludlow.
F. M. Jennison, for waters in Orange.
W. R. Phinney, for waters in Orange.
F. C Brown, for waters in Cheshire.
J H. Moore, for waters in Pittsfield.
F. G. Crane, for waters in Dalton.
R Mason, for waters in Hinsdale.
C. P. Taylor, for waters in Hancock.
J. C. Gorton, for waters in Lanesborough.
J. A. Stevens, for waters in Lanesborough.
W. H. Nichols, for waters in Richmond.
C. W. Burton, for waters in Windsor.
C. F. Smith, for waters in Savoy.
A. L. Phillips, for waters in Cheshire.
H. B. Burdick, for waters in Adams.
C. B. Hubbell, for waters in Williamstown.

Carp.

H. A. Spear, Newton Upper Falls.
J. R. Deane, Newton Highlands.
Nathan Keith, Campello.
C. C. Peck, North Attleborough.
G. A. Harned, North Foxborough.
B. W. Bennett, East Bridgewater.
H. K. Dresser, Newton Center.
S. B. Rich, Provincetown.
P. S. Dresser, East Milton.
J. F. Bowditch, Pembroke.

[D.]

Fish seen in the Lawrence Fishway in the Season of 1895.

The Merrimac River was higher this spring than it had been before for twenty-five years. During the high water a large piece of the upper end of the fishway was carried away. It had to be repaired before water could be let into it. Water was let in May 25. Lampreys, alewives and suckers immediately appeared. The run of lampreys was large for two weeks, then they stopped running very fast, there being none in the way June 17. The run of alewives was not very large; they stopped running June 15. Salmon did not appear until June 28. The following is the run of salmon and black bass as observed: —

June 28. One salmon.
30. One salmon.
July 4. Four salmon.
5. Thirteen salmon.
6. One salmon.
7. Two salmon, two black bass.
8. One black bass.
12. Two black bass.
July 14. One black bass.
17. Three black bass.
19. Two black bass.
24. Water shut out of the fishway; river low. Water was not let in again, excepting four days in August, until October 13.

From the middle of June until the water was shut out in July there were a great many small silver eels (from two inches to eighteen inches long) ascending the fishway. These eels, that look of little account when going up, return when full grown in the fall in large numbers, and the catching of them is quite a business here at Lawrence and at other points on the river. One was caught here this fall weighing eight pounds. They bring from ten to fifteen cents a pound at retail.

Two salmon were taken with a hook and line in the fishing season here at Lawrence, and another was hooked, but the angler lost him. Although the salmon could not ascend the river (or will not, when there is no current to attract them), still there were plenty of them in

the river, one man informing me that he saw a dozen in a pool under the Union Street bridge one day. A man that lives on the bank of the river at the upper end of Mitchell's Falls, between Lawrence and Haverhill, informed me that there were few days from July until the middle of September that salmon were not seen or heard jumping in the river opposite his house.

From October 12 to October 14 four inches of rain fell in the Merrimac valley between Manchester, N. H., and Lawrence, Mass.

Water was let into the fishway on October 13. Salmon appeared as follows: —

Oct.	14.	One salmon.	
	15.	Eight salmon.	
	16.	Two salmon.	
	17.	Five salmon.	
	18.	One salmon.	
Oct.	19.	Four salmon.	
	20.	Five salmon.	
	22.	Three salmon.	
	23.	One salmon.	
	26.	One salmon.	

Have seen no fish in the fishway since November 1 up to date, November 15.

Respectfully submitted,

THOMAS S. HOLMES,
In Charge of Lawrence Fishway.

[E.]

Reports of Deputies.

To E. A. Brackett,
Chairman Commissioners on Inland Fisheries and Game.

I respectfully submit the following report of work done during the year ending Nov. 1, 1895: —

Patrolled Buzzard's Bay in steamer "Ocean Gem," protecting the fish of said bay, one hundred and seven days.

Menhaden were more plentiful in the bay during the past summer than at any time since 1890. Menhaden steamers from Rhode Island and New York have been cruising in our waters during the summer, and in order to stop violations of the law, the presence of the boat was required at all times, and it was kept in Buzzard's Bay as much as circumstances would permit.

A larger body of fish left the bay last October than I have seen for several years.

I have made 17 arrests, seized 21,504 lobsters and planted 9,000,000 eggs; cases investigated, 61; amount of fines imposed, $705.

Complaints were made that steamers were fishing around the Vineyard contrary to law. If I left Buzzard's Bay they would be reported at that place, and when I was in the bay I would hear of them around Edgartown. From the 17th of August until the fish left the bay in October I kept the boat in Buzzard's Bay, in sight of the body of the fish all the time, with the exception of the time required to get coal and provisions.

I have furnished blank forms for returns to lobstermen and net and weir fishermen amounting to about one thousand, and have received returns from nearly all of them, according to law.

I had several complaints of snaring game birds, but, as I was busy on the steamer at the time, said complaints were referred to the commission. I think there is a general disposition among the fishermen to violate the ten and one-half inch law, making the same a very hard act to enforce, and I think that under those circumstances it will require some different law to save the lobster industry from destruc-

tion. The fishermen have destroyed the mackerel fishery by seining, and the cod fishery of Massachusetts Bay by the use of cod nets, and in my opinion they will eventually destroy the lobster fishery, unless some different law is passed for their protection.

Respectfully submitted, WM. H. PROCTOR,
District Police Officer.

MARION, Nov. 21, 1895.

Commissioners on Inland Fisheries and Game.

GENTLEMEN: — In making my report for 1895, I think it is not only fair, but justice to the fishermen in the district assigned to me, to say that the laws for the protection of the fisheries have been better observed this year than any since I have been connected with the commission. By this I do not wish you to understand that there have been no violations, for that would be almost an impossibility. The question has been asked me a number of times by the local fishermen, "Why don't you stop the importation of short lobsters from the Provinces?" That alone I think has had a more demoralizing effect upon the fishermen than any one thing; and the fact of our seizing early in the year some eight thousand shorts from the Provinces and the State of Maine was an encouragement to our fishermen, for they are not so blind but they can see that the parties in Boston receiving short lobsters from the Provinces under the guise of forwarding them to New York simply forward what they can't dispose of on the sly to the Boston and local trade. These cases you remember were tried in the lower court, and the five different parties were fined five hundred dollars each, representing a total fine of twenty-five hundred dollars. Each party appealed, and the cases were again tried in the superior court, where they were thrown out, on the ground that the lobsters were being forwarded through the State in the original packages. Without criticising the action of the court, it had a good result, for it gave the Boston receivers to understand that all short lobsters consigned to them from the Provinces must be forwarded out of the State just as received. This has been an encouragement to the local fishermen, and in consequence less short lobsters have been used this year than for a long time.

The returns sent in by the lobster fishermen show quite a falling off in the number of men and pots, but with about the same average catch per pot as last year. The returns from pounds and nets, while showing quite a falling off in the number of alewives, bluefish and mackerel, yet show a large increase in other kinds, and as a whole compare favorably with last year.

Several complaints of snaring have been reported during the sea-

son, and much time has been spent in investigating them, and, while some of the reports proved to be all supposition, others were found to be true, and have been convicted in court, and fines paid to the amount of one hundred dollars. Snaring is on the increase, and unless checked will, I am afraid, add greatly to the depopulation of our game birds. I am speaking within bounds when I say a professional can take more partridges with a string of two or three hundred in a town than are usually captured with the gun. The fact of snares being set in the thick underbrush makes it almost impossible for a stranger to locate them; and if a law could be passed compelling all towns to appoint a game warden, the commission could then depend upon local assistance, and within a few years completely stop the business.

Respectfully, JOHN W. DELANO.

To the Commissioners on Inland Fisheries and Game.

GENTLEMEN: — As a deputy fish and game commissioner, I have made a vigorous effort to enforce the laws protecting the same. The complaints sent me this season have not been as numerous as those of last season. The markets have been free from short lobsters offered for sale; in eighty-three markets none have been seen, and there have been no complaints of parties peddling short lobsters on the streets in our cities. But there have been numerous complaints of the catchers of lobsters violating the laws. The parties referred to are old offenders, many of them have frequently been before the courts and fined, some of them three times, others have served time in jail. They, however, still continue to carry on a large traffic in tails and claws of small lobsters, especially during the beach season. More small lobsters are destroyed during the ten weeks of the beach season than in all the rest of the year. These catchers are located along the coast, between Boston and Rockport. There are eleven men engaged in this kind of work as a business. During the beach season they use fourteen hundred traps, and it is a low estimate to fix the number of small lobsters destroyed at two thousand per day, for a period of ten weeks. The work of severing the tails and claws from the body is carried on at a distance of one-half to two miles from the shore. This year it has been the custom of several of these catchers to carry an oil stove and washboiler in their boats; thus, when safely anchored, they can break off the tails and claws, boil and pick out the meat at their leisure. Lobster tails when boiled cannot be seized. Thus the parties by using a large degree of caution feel free from being detected by the officers. I have

succeeded in arresting four persons for violating the lobster laws this season. There is little or no difficulty in securing a conviction of the parties arrested, as most of them are inclined to plead guilty. In one instance this season, where a party was arrested for having uncooked lobster tails in his possession, the court found the party guilty, but placed the case on file after saying he feared the law might not be constitutional.

Partridge and woodcock have been found to be much more numerous than last year, and large flocks of quail are reported as having been seen in locations near the coast where the snow does not cover the ground for a large part of the year. As quails find their resting place on the ground at night, many of them are destroyed by foxes, skunks and other animals that seek for food in the night. Three complaints have been sent me of parties snaring partridges, one in Essex County, one in Bristol and one from Worcester County. They were sent just at the time I was called to work at the State hatchery, consequently I was unable to give that attention to them which they demanded. The snaring of partridges is an evil that may be checked if the persons who know the parties and locations where the work is being done would only take the trouble to immediately inform the deputy commissioners.

I desire to again call the attention of the Board of Commissioners to the importance of a close season on lobsters of ten weeks during the beach season. I have yet to find a single retail dealer in lobsters who objects to a close season at that time. If a close season is of any benefit in sections of the country where it is observed, it certainly would result in much good to the lobster industry of Massachusetts.

Number of arrests made, 4; amount of fines imposed, $175.

Respectfully submitted, B. P. Chadwick,
Deputy Commissioner.

Bradford, Nov. 8, 1895.

Pittsfield, Mass., Nov. 27, 1895.

Mr. Edward A. Brackett,
Chairman Commissioners on Inland Fisheries and Game.

Dear Sir: — I have to report, for the county of Berkshire, which has been specially under my jurisdiction, that there is substantial evidence to prove that the outlay for more thoroughly enforcing the fish and game laws has been a good investment. There have been better hunting and fishing than usual, and there seems to be an improvement in public sentiment to better support those who are called upon to enforce the laws. The supply of trout has been fully up to the average, notwithstanding the severe drought of a year ago.

Partridges have been more abundant, and the number of woodcock has been up to the average of the past few years.

The arrests made by me during the year were: for liming trout brook, 3; for snaring partridge, 3; for netting fish, 1. Of these, 4 were convicted, 3 paying each $10 and costs, and 1 had the papers filed away on payment of costs. I have warrants for 4 other parties for snaring birds, which are held for more complete evidence. I have taken up and destroyed set lines in Pontoosuc Lake, 2; in Onota Lake, 3; destroyed net found in trout brook, 1.

While the arrests were not as many as the year before, I think my work has shown better results in prevention rather than in cure. The law breakers have come to know that there is some one to go upon their track and follow them up at once, should they keep up their work.

As requested by your Board, I have given attention to Sunday shooting, and, while no arrests have been made, I think my efforts have done a good deal towards stopping the practice.

The case against Fish Commissioner Follett of Connecticut, which was referred to in my report a year ago, was tried before the January term of the superior court, and, as predicted, was decided in favor of the Commonwealth. The court increased the fine of $150, given by the lower court, to $300, and an appeal was taken to the supreme court. The case was argued before this court in September, and soon after a decision was given, sustaining the judgment of the lower court. The result in this case is gratifying, as it proves that I was right in making the arrest and pushing the case on the part of the State. I wish to express my thanks to District Attorney Gardner for the zeal and interest shown in the prosecution of this case. He deserves the gratitude of every true sportsman in the State.

Respectfully yours, BENJ. SMITH,
Deputy Commissioner.

EDGARTOWN, Nov. 6, 1895.

Hon. E. A. BRACKETT, *Chairman of Inland Fisheries and Game.*

MY DEAR SIR: — I respectfully submit the following report: —

I received appointment as deputy fish commissioner Aug. 20, 1895, since when I have assisted Capt. W. H. Proctor, deputy commissioner, a portion of the time in protecting Buzzard's Bay from violators of the fishing law in regard to the illegal seining of menhaden by steamers from Rhode Island. By our efforts in constantly patrolling this bay in State steamer "Ocean Gem," as well as with cat boats, these steamers from Rhode Island have to a great extent been kept from violating this law.

In regard to game birds in this district (Dukes County), English pheasants are increasing rapidly, but heath hens, owing to the illegal shooting of these birds, are fast becoming extinct, and unless something is done in the way of constantly keeping an officer on duty for the protection of the same during the fall months, in my opinion they will shortly be a bird of the past.

Since my appointment I have, in connection with deputy commissioners Proctor and Delano, seized four thousand short lobsters, also prosecuted two persons for having short lobsters in their possession, each of whom were fined $50.

THOMAS A. DEXTER,
Deputy Commissioner.

HON. EDWARD A. BRACKETT, *Chairman Board of Commissioners.*

DEAR SIR: — I have the honor herewith to present my report. Sickness and absence from town have prevented my forwarding it to you at an earlier date.

You will remember that my appointment did not come until late in the year, in consequence of which I have not been able to accomplish much that I believe will add to the protection of our fish and game.

During last summer and the present fall I have started a campaign against trapping partridge and quail in the country round about North Scituate that I think will be lasting, and I know has saved the lives of many coveys of young birds. I found in the district referred to a general willingness among the farmers to combine for the better protection of game.

At a meeting held at the farm of Mr. Edward G. Faye, before the law was off, it was unanimously decided to post a number of farms prohibiting shooting or trespassing without permission. This was not intended as a proscriptive measure, but was done with a view to afford birds an opportunity to find shelter from "game hogs," who, as reported, had in years past been content only with the extermination of an entire covey after it had once been flushed. It was also agreed at the meeting that old wood roads, that were a favorite feeding place for quail and partridges, should be broken out in case of heavy snows during the coming winter, and broken feed scattered from time to time. So far the plan has worked admirably. The farm owners and their friends, and in fact any one who was satisfied with a half-dozen birds and would take the trouble to ask permission to shoot, have enjoyed good sport without in any way affecting the prospects of plenty of birds for next year.

In the district referred to quail are very plentiful, and, barring either a very wet spring or a heavy snow late in the season, they

should be more plentiful next year than ever before within the memory of the oldest inhabitant.

There has been no Sunday shooting whatever this season, and I am credibly informed that this is the first year that the law has been complied with in this respect.

According to all reports, there have been two or three flights of woodcock, but the birds were but little disturbed, and have remained later than before known in the section.

Partridges have been scarce, and but few were killed up to the tenth of this month.

All of which is respectfully submitted.

ALON G. FAYE.

BOSTON, MASS., Oct. 31, 1895.

Mr. EDWARD A. BRACKETT, *Chairman, Winchester, Mass.*

DEAR SIR: — During the past season I have attended to my duties as a deputy commissioner, as I have heretofore done, to the best of my ability.

Matters before the Legislature required considerable of my time and attention, and it seems to me that the condition of our game and fishery laws has not been improved by the latest legislation, — rather the contrary. The local dealers in fish and game, however, have given me less trouble during the past season than for many years. This is but natural, owing to the fact that these dealers have gradually but surely secured such legislation as suits their business purposes.

There has been but little alleged violation of existing laws brought to my attention.

From all that I can learn from observation and information, our quail have largely increased during the past year. A favorable season and a year of close time have aided in showing beneficial results.

Ruffed grouse are fairly plentiful in many sections of the State and in others rather scarce. I believe the law which allows the snaring of these birds is largely responsible for any present scarcity. I also believe, however, that, so long as we have suitable covers left for these birds, and there is a food supply, they will not fail the sportsmen of this State. These birds I have found in very large numbers more than a thousand miles to the north, and I am convinced that they are sufficiently migratory to induce them to change location according to their needs.

I have carefully examined into the experiment that is being made by the State with a view of disseminating the Mongolian pheasant, and I believe that this bird will soon become a great addition to the list of game birds of Massachusetts.

Very truly yours, JOHN FOTTLER, JR.,

Deputy Commissioner.

To the Commissioners on Inland Fisheries and Game.

Gentlemen: — In submitting my report for the year 1895, I would say that I have attended to the duties assigned me, and visited all of the weirs, nets and lobster fisheries in the district, from Buzzard's Bay to Provincetown, and those who had not been furnished with blanks were reported, so that all fishermen could make the proper returns.

The shore fisheries have not been financially successful through the Cape the past season, owing to the scarcity of mackerel.

I have received several complaints of violation of the game laws in shooting shore birds out of season, and I have carefully investigated the same and could find no violators, hence made no arrests. I have carefully looked over the quail grounds through the season, and find a large increase through the Cape, with only two reports of violation of the law.

Yours respectfully, S. B. Rich,
Deputy Commissioner.

Arlington Heights, Nov. 11, 1895.

Hon. E. A. Brackett.

Dear Sir: — Herewith please find my report as deputy warden for the past year.

Ruffed grouse have been very plenty in this vicinity; quail rather scarce. I fed two broods all last winter, and think they lived through the entire winter, as I saw them late in the spring.

Have stopped parties from fishing and shooting on Sundays, but, as they were all for the first offence, have made no arrests. Have also stopped boys from shooting small birds on several occasions.

I would suggest that, if your Board would see fit to put out some quail or pheasant in this district, it would be a good thing, for there are good grounds, and I would take charge of them.

Yours respectfully, W. P. Hadley.

To the Chairman of the Board of Inland Fisheries and Game of Massachusetts.

In making my report this year, I am sorry to say that the small brooks have failed again for the lack of sufficient rain, but the larger ones have afforded a good supply of large trout.

No report of violation of the fish and game laws has been made this year.

I stocked a pond with white perch four years ago, and several

good strings have been taken from it this year. I think if the State would stock our large ponds with white perch, it would afford a better supply of nice fish, give general satisfaction to the public and have a tendency toward protecting the trout, and give them a better chance.

Ruffed grouse and gray squirrels are plenty; other game scarce.

All of which is respectfully submitted.

W. H. Frost,
Deputy Commissioner.

Athol, Nov. 5, 1895.

Worcester, Nov. 9, 1895.

Mr. E. A. Brackett,

Chairman Board of Commissioners of Inland Fisheries and Game.

Dear Sir: — In answer to your request for a report of the fish and game, etc., in my department, would say that partridges, squirrels and rabbits are quite plenty, woodcock very scarce, quail almost none, fishing very good.

Since my last report I have made but two arrests for violation of game laws, and they were for hunting rabbits with a ferret. They were both convicted and fined $20 each, which they paid.

The amount of money expended in my efforts to enforce the game law was $30.30. Time lost from my business, sixteen days.

Yours very truly, John F. Cumming,
Deputy.

Milford, Mass., Nov. 7, 1895.

Mr. E. A. Brackett,

Chairman Board of Commissioners of Inland Fisheries and Game.

Dear Sir: — In reply to your request of October 25, I submit the following: —

Game has been plentiful here this year, particularly partridge. Many quail have also been found, and we claim it is due to the close season of last year. Now, if partridge had been protected until October 15, as in case of quail, we think we would have had much better results.

There has been very little fault to be found relative to violating laws. No arrests have been made, but several parties have been notified that they must give up Sunday fishing and gunning. Italians are more apt to break this law than any other class. No doubt the laws have been violated in localities which have not come under my notice.

Respectfully yours, Mortimer Edwards.

COHASSET, Nov. 9, 1895.

Mr. E. A. BRACKETT.

DEAR SIR: — I have been doing all in my power to enforce the fish and game laws, but as I was away a few days in New York, I did not receive my appointment until nearly all game could be shot; but since then I have stopped the snaring in this section. As soon as it was known that there was a game warden, they were more careful. I have broken up about fifty snares so far.

There would have been fine quail shooting this year, only that, as there was no one looking after them in the close season, the gunners came from all parts, so that this year they were about the same as they have been years back.

Other game is as plenty as usual, with the exception of partridges, which for the last few years have been snared so that we can hardly start one except in the first of the season.

The smelt have been quite plenty, but no one has tried netting them yet, although I have been watching a party that I think intends to try it. The only other fish here that amount to anything special are the brook trout, which are very scarce, though we have two fine streams for them.

There have been no fines imposed as yet.

Yours respectfully, HENRY R. NICKERSON.

WEBSTER, Oct. 28, 1895.

E. A. BRACKETT, Esq.

DEAR SIR: — The fish and game in this section are only the usual Massachusetts species.

I have arrested and had before the court, one Hungarian for Sunday shooting, who was fined $15, which he paid; one for Sunday shooting, two song birds, fined $20, and Sunday shooting $10, — $30 in all, which he paid.

I have had parties interested in the enforcement of the game laws in adjoining towns looking after the violators; and the fact that am determined to prosecute all guilty ones has put a quietus on the wrongfully disposed ones.

Very respectfully yours, R. C. HALL.

[F.]

[No. 581.]

COMMONWEALTH OF MASSACHUSETTS.

SUPREME JUDICIAL COURT.

BERKSHIRE, ss. SEPTEMBER SITTING, 1895.

COMMONWEALTH *v.* RICHARD E. FOLLETT, *App't.*

[Brief for the Commonwealth.]

By the language of section 51, chapter 91 of the Public Statutes, it is made an offence for a person to take trout with a net at any season of the year.

The defendant admits having taken from Lee Brook sixty trout with a net, but justifies under the claim that he was engaged in the artificial propagation of trout, that he owned the trout so taken, that they were taken from waters which were under his control, and, further, that after taking them he kept them until they were ready to be delivered of their spawn, and then stripped the spawn from them and turned them back into the brook alive. The defendant also claims that all the trout so taken were turned by him from his own pond into Lee Brook, and he contends that as the owner of said trout he had a right to take them in the way he did for the use to which they were put.

There were no obstructions to prevent the free passage of fish anywhere in this brook, nor in the waters of any stream into which it flowed. The defendant's control of this brook was limited, others having the rights of riparian proprietors in portions thereof not owned or leased by the defendant. Through this brook and the brook below the defendant's trout were permitted to freely pass, and the trout taken by him had actually passed through the waters of another riparian owner. Besides, there were trout in the brook other than those which came from the defendant's hatchery, to which the defendant made no special claim.

Upon these facts the government contends: —

1. That, if all the trout taken by the defendant were those which he had previously turned from his hatchery into the brook, whenever they passed from that part of the brook owned or leased by the defendant into waters over which he had no control they ceased to belong to him, and his right to take them with a net was at an end.

2. That the defendant had no right at any time or at any place to take said trout with a net after he "let them out" of his own pond into Lee Brook.

I.

Regarding these fish the defendant can scarcely claim any rights beyond what are conferred by section 26 of said chapter 91. If this section were to be construed literally, and without connection with the one which immediately precedes it, it would be difficult to understand what rights the latter section was intended to confer upon a riparian proprietor which he did not already possess. If, however, the two sections are to be construed as having a direct connection with each other, the meaning of both would seem to be obvious. They would secure to a person engaged in the cultivation of useful fishes the right to *enclose* the waters of a stream within the limits of his own premises, confer upon him a title to such fishes *while within said enclosure*, and the right so long as they remained therein to take them at pleasure. It is only to fish propagated or maintained in water so enclosed that an absolute title can be secured. (Commonwealth *v.* Perley, 130 Mass. 469.) This view seems also to be in accordance with that held by this court in Eastham *v.* Anderson, 119 Mass. 526–531, and, if correct, fully meets the defendant's claim that under section 26 he had the right to net said trout while in the open stream, and not enclosed, whenever found within the waters controlled by him.

It will be observed that the law which confers upon a riparian proprietor the right to cultivate fishes in that part of the open stream which flows through his land confers upon him no right to take such fishes with a net.

II.

Was it the intention of the Legislature, by the enactment of section 26 as a part of the law relating to inland fisheries, to materially enlarge property rights in fish which have been reclaimed, or, mainly in the interests of fish culture, to relieve the owner of artificially propagated fishes from the general restrictions as to the time and manner of taking them?

Under the common law, when the defendant turned his trout into the open stream he parted with his title to the trout and wholly lost his right to control them. "In all these creatures," says Blackstone, "reclaimed from the wildness of their natures, the property is not absolute, but defeasible, — a property that may be destroyed if they resume their ancient wildness and are found at large. For, if the pheasants escape from the mew or the fishes from the trunk, and are seen wandering at large in their proper element, they become *feræ*

naturæ again, and are free and open to the first occupant that hath ability to seize them." Contrast this with the claim made by the defendant. The trout taken by him were at large in an open stream, they were subject to no barriers restraining them within their proper limits, and they bore no distinguishing marks to enable a stranger to recognize them as the property of another; and yet the contention of the defendant is that under the law they were absolutely his property.

III.

If this claim were well founded, would it not seem to follow that no person would have a right to catch these fish at any time within the waters controlled by the defendant, whether notices were posted forbidding persons to fish there or not? And might not a riparian proprietor who caught them within the limits of his own land and appropriated them to his own use be convicted of larceny?

It is submitted that it was never intended that the law should confer such a title as that for which the defendant contends. (Commonwealth *v.* Perley, *ubi supra.*)

IV.

If the right claimed by the defendant should be recognized, he could net trout with impunity anywhere in Lee Brook, and especially in such portions of the brook as were under his control, to which he could allure them by the use of food; because they could be taken at times when it might not be possible for the government to prove that he took any but his own, or that any others taken "were not thrown from the net back into the brook." For this reason the construction contended for by the defendant would render the law wholly ineffectual. (Commonwealth *v.* Gilbert, 160 Mass. 157.)

V.

The fact that the defendant was engaged more or less extensively in fish culture, an occupation which it is the policy of the Commonwealth to encourage, affords him no exemption from a strict compliance with the requirements of the law.

VI.

Upon all the facts it was competent for the court to order the jury to return a verdict of guilty, especially as such verdict was so ordered with the consent and approval of the defendant. Besides, it does not appear that any exception was taken to this order.

C. L. Gardner,
District Attorney.

[No. 88.]

COMMONWEALTH OF MASSACHUSETTS.

BERKSHIRE, ss. SUPREME JUDICIAL COURT.

COMMONWEALTH *v.* RICHARD E. FOLLETT.

[Defendant's Brief.]

The defendant in this case is engaged in the business of artificially propagating trout. He has a large trout hatchery in Sheffield in this county. He placed, as a part of his business, fifteen hundred trout, his own property, in the brook on his own premises where his hatchery is located. He fed these trout daily in said brook. After a time, for the purpose of obtaining the spawn, he caught a few of these trout in a net, stripped them of their spawn and returned them to the brook. All this was done as a part of his business of cultivating and propagating useful fishes. For the taking of these trout in a net the Commonwealth now seeks to convict him of a violation of section 51 of chapter 91 of the Public Statutes. The conviction was under the second count of the complaint, — at least we assume that this must have been the case.

I.

1. The defendant, being the owner of the soil over which the Lee Brook flowed at the point where the trout were taken, had by the common law of Massachusetts the exclusive right to take fish in the stream. (Waters *v.* Lilley, 4 Pick. 145.)

2. By the common law, too, the defendant had a special property in the fish while they were in the waters of the brook on his premises, even though they were in a wild state. (Fleet *v.* Hegeman, 14 Wendall, 42.)

3. By the same law, if the defendant had fed and tamed and brought the fish on his premises within his possession and control, he would have acquired a qualified property in them, and he would have had a right to take them at pleasure in such manner as he chose, and appropriate them to his own use.

Does section 51 of chapter 91 of the Public Statutes take away this right? The defendant contends that the provisions of section 51 are intended to apply only to trout when in their wild state, and not to trout that are tame, and have been brought under control so as to be the property of particular individuals. Fish in a wild state are a kind of game, and the statutes prohibiting the taking of fish at certain times and in certain ways were originally placed, in the codification of our statutes, in the same chapter or near to the same chapters as the statutes for the preservation of deer, other game and certain wild

birds. (See chapters 53, 54, 55 of the Revised Statutes; chapters 82 and 83 of the General Statutes.) By game is meant wild animals. (Rapal, J. E., and Lawrence's Law Dic., Vol. 1, 560.)

These statutes are known as the game laws, and they apply to wild creatures, and not to creatures wild by nature that have been tamed, — made very tame, as these trout are said to have been, — and have been brought into the possession and ownership of man.

II.

But, if there is doubt of the defendant's right to take these trout under his common law rights without incurring the penalties of the statutes, there is no doubt of his right to take them under the provisions of the statutes of the Commonwealth made for the declared purpose of encouraging the cultivation of useful fishes. (See title to chapter 384, Acts of 1869.)

The defendant was engaged in the cultivation of useful fishes. He had brought the fish taken, with many others, into the Commonwealth for the purpose of propagating the trout. He had maintained these trout by feeding them on his own premises. They were his absolute property. He had a right to take them at pleasure in his own waters. He could have them in his possession at any time for purposes connected with maintenance and culture. (See sections 18 and 20, chapter 384, Acts of 1869; section 26, chapter 91, Public Statutes.)

It is said that he had not enclosed the waters of the stream, as required by section 25 of chapter 91. To this suggestion two sufficient answers are made: —

First. — The defendant had enclosed the stream so far as it was necessary or practicable for him to do it. He had posted the stream, thereby giving notice that the fish therein were being controlled by the owner for private use. He was obliged by the statutes to leave a suitable passage for migratory fishes. (See latter part of said section 25.) He was obliged by common law to do the same thing. (Commonwealth *v.* Chapin, 5 Pick. 199.)

Here is a little trout brook up and down which suckers, trout and other fishes must be permitted by riparian proprietors to freely pass. How could the defendant in any practicable way put up obstructions or enclose the waters so as as to keep his own trout in the brook on his own premises, and at the same time allow other trout to pass?

Second. — We say a riparian proprietor may cultivate fishes in a stream on his own premises without enclosing the waters. Section 25 is simply intended to aid and encourage the riparian proprietor in the cultivation of fishes; it is not a restriction upon him. If he chooses to feed, maintain, propagate and cultivate fishes in a stream

on his own premises, without enclosing the waters, he can do so. Such a course will not abridge his right to take the fish so maintained in his own waters at pleasure; it only subjects him to greater risk of losing his fish and thereby the profits of his labor. (See Commonwealth *v.* Vincent, 108 Mass. 141; see 451.)

CHARLES E. HIBBARD,
HERBERT C. JOYNER,
Defendant's Counsel

COMMONWEALTH OF MASSACHUSETTS.

BOSTON, Nov. 26, 1895.

I certify the annexed to be a true copy of the opinion of the supreme judicial court in the case of Commonwealth *v.* Follett, decided on the nineteenth day of October, 1895. GEO. F. TUCKER,
Reporter of Decisions.

FIELD, C. J. The Public Statutes, chapter 91, section 51, prohibit the taking of trout with a net at any season of the year. Sections 25 and 26 of the same chapter are as follows: —

SECT. 25. A riparian proprietor may, within the limits of his own premises, enclose the waters of a stream not navigable, for the cultivation of useful fishes: *provided*, he furnishes a suitable passage for migratory fishes naturally frequenting such waters.

SECT. 26. Fishes artificially propagated or maintained shall be the property of the person propagating or maintaining them; and a person legally engaged in their culture and maintenance may take them in his own waters at pleasure, and may have them in his possession for purposes properly connected with said culture and maintenance, and may at all times sell them for these purposes, but shall not sell them for food at seasons when their capture is prohibited by law.

The construction we give to these sections when applied to fish in the waters of a stream not navigable is that the fish, which are declared to be the property of the person propagating or maintaining them, and which such person may take "in his own waters at pleasure," are fish in waters which have been enclosed as provided by section 25. In Commonwealth *v.* Perley, 130 Mass. 469, 471, the court say, speaking of Statutes of 1869, chapter 384, sections 16, 18 and 20 of which were incorporated in sections 25 and 26 of chapter 91 of the Public Statutes: "The absolute ownership created by the statute necessarily exists only where and so long as he who propagates or cultivates the fish keeps them within a territory over which he has absolute control; as soon as he permits them to pass into territory where others have right of fishery, equal to or greater than

his, his ownership is gone, because they may then be rightfully taken by others without his consent," etc.

The contention of the defendant that the Hoxie trout had become so tame as to become his absolute property wherever they might be found in an open stream cannot be supported. Such fish are not of the class of animals which, without confining them in private waters, can become the absolute property of anybody. These trout in an open stream are like other trout; and Public Statutes, chapter 91, section 51, were intended to prohibit an owner of land on a stream not navigable from taking trout with a net from the stream on his own land, as well as to prohibit other persons from doing so.

Exceptions overruled.

[G.]

Legislation.

Acts of 1895.

[Chapter 55.]

An Act for the protection of Mongolian, English and golden pheasants.

Be it enacted, etc., as follows:

Whoever takes or kills, or has in his possession, except for purposes of propagation, any Mongolian, English or golden pheasant, at any time within five years from the passage of this act, shall be punished by a fine of twenty dollars for every bird so taken, killed or had in possession. [*Approved February 15, 1895.*

[Chapter 56.]

An Act to authorize the commissioners on inland fisheries and game to propagate birds and animals.

Be it enacted, etc., as follows:

Section 1. Section seven of chapter two hundred and seventy-six of the acts of the year eighteen hundred and eighty-six is hereby amended by inserting in the third line, after the word "the", the word: — propagation, — so as to read as follows: — *Section 7.* The commissioners of inland fisheries shall be game commissioners also; and their authority, personally and by deputy, shall extend to the propagation, protection and preservation of birds and animals in like manner as to fish.

Section 2. This act shall take effect upon its passage. [*Approved February 15, 1895.*

[Chapter 12.]

Resolve providing for the purchase and propagation of Mongolian pheasants.

Resolved, That the commissioners on inland fisheries and game may expend a sum not exceeding four hundred dollars for the purchase and propagation of Mongolian pheasants in this Commonwealth, to be paid from the appropriation for incidental and sundry expenses of said commissioners. [*Approved February 26, 1895.*

[Chapter 88.]

An Act to remove the restrictions upon shad and alewife fishing in the Merrimac river.

Be it enacted, etc., as follows:

Section 1. All provisions of law relative to the taking of shad or alewives in the Merrimac river, so far as they relate to the taking of fish in any part of said river where the tide ebbs and flows, or the selling of fish taken in that part of said river, are hereby repealed: *provided, however*, that whoever uses in that part of said river a gill-net of any description, or a sweep seine having a mesh which stretches less than two and a quarter inches, shall forfeit twenty-five dollars for each offence and in addition shall forfeit the fish taken and the apparatus used.

Section 2. It shall be unlawful to take shad in the Merrimac river in any manner between the first day of July in any year and the first day of April in the succeeding year.

Section 3. This act shall take effect upon its passage.

[*This bill, returned by the Governor to the House of Representatives, the branch in which it originated, with his objections thereto, was passed by the House February 21, and, in concurrence, by the Senate February 28, the objections of the Governor notwithstanding, in the manner prescribed by the Constitution; and thereby has the "force of a law."*]

[Chapter 180.]

An Act to authorize the commissioners on inland fisheries and game to lease oyster pond in the county of Dukes County.

Be it enacted, etc., as follows:

Section 1. The commissioners on inland fisheries and game, or any two of them, may, in the name of the Commonwealth, lease for a term not exceeding twenty years, the pond known as Oyster pond, in the county of Dukes County, and any of the arms, coves and

bays connected therewith, for the purpose of cultivating useful fish, for such periods of time and on such terms and conditions as they may judge the public interest to require: *provided*, that nothing in this act shall impair or abridge the right of any citizen of the Commonwealth to take fish in said pond or the waters connected therewith, by hook and line, at such times and under such restrictions and limitations as are permitted under any laws of the Commonwealth now or hereafter enacted relating to the taking of fish by hook and line.

Section 2. Before making such lease the commissioners shall appoint a time and place for a hearing upon the application therefor, and shall give notice thereof to all the towns within whose limits any part of said pond lies.

Section 3. Towns within whose limits any part of said pond lies may, for the purpose of cultivating useful fish, under such conditions and restrictions as they may prescribe, take a lease of said pond and appropriate money therefor.

Section 4. The commissioners may fix the limits of the said pond and the arms, coves and bays connected therewith; which limits, being recorded in the registry of deeds for said county, shall be taken to be the legal limits thereof for all the purposes of this act.

Section 5. The commissioners shall have the custody of all leases made under the provisions of this act, and may cause any agreements, rights, reservations, forfeitures and conditions therein contained to be enforced, and for that purpose may institute proceedings in the name of the Commonwealth, and may take possession of any premises for breach of conditions of said lease, and after revesting the Commonwealth therewith may again lease the same.

Section 6. This act shall take effect upon its passage. [*Approved March 27, 1895.*

[Chapter 199.]

An Act for the protection of pickerel in the county of Berkshire.

Be it enacted, etc., as follows:

Whoever takes from the waters of the county of Berkshire a pickerel less than ten inches in length, or sells or offers to sell, or has in his possession, with intent to sell in said county any such pickerel, shall forfeit one dollar for each pickerel so sold or offered or exposed for sale; and in any prosecutions under this act the possession of any pickerel less than ten inches in length shall be prima facie evidence of a violation thereof. [*Approved March 30, 1895.*

[Chapter 203.]

An Act to regulate the fisheries in Swan Pond river.

Be it enacted, etc., as follows:

Section 1. The selectmen of the town of Dennis, or a majority of them, shall annually, on or before the twentieth day of April in each year, prescribe the times, places and manner of taking herring or alewives, perch, salmon, eels and trout in Swan Pond river, at the mouth thereof or in the ponds and streams connected therewith, and they may appoint some suitable person or persons to take the same, and shall fix the compensation to be paid therefor; or may grant permits to suitable persons, being inhabitants of said town, to catch any of said fish in the said river or the ponds and streams connected therewith, and fix the compensation to be paid to said town for such permits, and shall determine the quantity of said fish which each family in said town shall receive from such catches, and establish the price therefor; and may sell, at auction or otherwise, the right of fishing in said river and its waters to one or more persons, for a term of not more than five years at one sale, upon such terms and conditions as the said town or said selectmen may direct: *provided*, that nothing in this section shall be construed to prevent any person, being an inhabitant of said town, from taking fish with natural or artificially baited hook and hand line, under such regulations as said selectmen may prescribe.

Section 2. The net proceeds of the said fisheries shall be paid to the treasurer of said town.

Section 3. The said selectmen, or a majority of them, are hereby authorized and empowered to cause the natural streams through which the said fish pass to be kept open and without obstruction; to remove such obstruction as may be found therein and to make the passage-ways wider and deeper if they shall judge necessary. And the said selectmen, or either of them, by paying a reasonable consideration therefor if demanded, shall have authority for said purpose to go on the land of any person through which said stream runs without being considered as trespassers, and any person who molests or in any way hinders the said selectmen, or either of them, in the execution of the duties of their office, or obstructs any passageway in said Swan Pond river or in the ponds or streams connected therewith, otherwise than as allowed by said selectmen, shall be punished by a fine not exceeding twenty dollars for every such offence.

Section 4. Whoever takes any herrings or alewives, perch, salmon, eels or trout in Swan Pond river or in the ponds and streams connected therewith, or within half a mile in any direction from the

mouth of the said river, at any time or place or in any manner other than may be allowed by said selectmen, shall for each offence be punished by fine not exceeding ten dollars if the quantity of fish so taken is less than one barrel, but if the quantity of fish so taken is one barrel or more shall be punished by fine not exceeding forty dollars, and not less than ten dollars for each barrel of fish so taken.

Section 5. If any vessel, boat or craft shall be found within the limits of said river or the pond or streams connected therewith, or within half a mile of the mouth of the said river, with any more of said fish on board the same than is allowed by said selectmen, or if any person or persons with any such vessel, boat or craft shall be detected in taking or in attempting to take any of said fish in any manner different from that prescribed by said selectmen, or with seines, nets or with other instruments of a kind or size different from that established by said selectmen, it shall be the duty of said selectmen, or either one of them, to seize such vessel, boat or craft, seine or other instruments, and detain the same not exceeding forty-eight hours, in order that the same may be attached by due process of law and made answerable for the fines and forfeitures incurred with cost of suit.

Section 6. One half of all fines and forfeitures incurred under this act shall accrue to said town of Dennis, and the other half to the persons who shall prosecute for the same, excepting that when said selectmen, or either one of them, shall prosecute for such fines and forfeitures they shall accrue wholly to the said town, to be recovered by complaint in any court having jurisdiction of the same. [*Approved March 30, 1895.*

[Chapter 277.]

An Act to authorize the sale, during February and March, of certain trout artificially reared.

Be it enacted, etc., as follows:

Section 1. Trout not less than nine inches in length, hatched from the egg in the house of the owner and grown in pools of said owner, may be sold for food during the months of February and March.

Section 2. Whoever sells any trout in said months, except as provided in the preceding section, shall be punished by a fine of twenty dollars for each offence. [*Approved April 16, 1895.*

[Chapter 282.]

AN ACT RELATIVE TO OYSTER CULTURE.

Be it enacted, etc., as follows:

Section 1. The provisions of sections ninety-seven, ninety-eight, ninety-nine, one hundred and one hundred and one of chapter ninety-one of the Public Statutes and all acts in amendment thereof or in addition thereto, are, so far as applicable, hereby extended so as to apply to oyster shells to be planted for the purpose of catching the oyster seed.

Section 2. The shore line of the grants or licenses mentioned in said section ninety-seven shall in all cases be construed to be the line of mean low water, so far as the planting and growing of oysters is concerned, and the line of high water for the purpose of placing said shells, but nothing herein contained shall authorize the placing of such shells upon the land of any riparian owner, between high water and low water mark, without the written consent of such owner.

Section 3. Nothing in this act shall abridge the right now enjoyed by any inhabitant of the Commonwealth to take clams for the use of himself and family, or for bait, not to exceed, including shells, three bushels a day. [*Approved April 17, 1895.*

[Chapter 411.]

AN ACT RELATIVE TO THE TAKING OF FISH IN SHERMAN POND IN THE TOWN OF BRIMFIELD.

Be it enacted, etc., as follows:

Section 1. The town of Brimfield may, by vote in town meeting, make regulations specifying the times when fish may be taken in Sherman pond in said town, and affix penalties for the violation of said regulations not exceeding twenty dollars for any one offence. Said regulations, when approved by the commissioners of inland fisheries and game and recorded in the office of the clerk of said town, shall be in full force and effect for a period of ten years from the passage of this act, and binding on all persons for such period and no longer, but shall be void unless so approved and recorded.

Section 2. Except as provided in the preceding section the general laws of the Commonwealth relative to the taking of fish shall apply to the taking of fish in the waters of said pond. [*Approved May 25, 1895.*

[Chapter 127.]

Resolve relative to the fish hatching station at Plymouth, in the state of New Hampshire, now used and managed by said state and this Commonwealth in common.

Resolved, That the governor and council are hereby authorized and empowered to arrange with the authorities of the state of New Hampshire for ending the joint tenancy of the fish hatching station at Plymouth, in said state, now used and managed by the state of New Hampshire and this Commonwealth in common, and may purchase or dispose of the same as they may deem best for the interests of this Commonwealth. [*Approved June 5, 1895.*

[H.]

Breeding and Care of Pheasants.

Introduction.

This article gives sufficient information to enable any intelligent person to breed every variety of pheasant.

If cheaper aviaries are desired, they can be built of laths, strips of boards or any material that will keep the birds in and vermin out, and at the same time give sufficient air and light. After the aviary is built the cost of running it is small, as the pheasants eat less than ordinary fowls.

The advantage to the farmer, as well as to the sportsman, should lead to the establishing of breeding-places all over the State. It would be easy for sporting clubs to find intelligent farmer boys who would be glad to take care of them for a small consideration. By letting young birds loose in September, the State would probably become well stocked with them in a short time. For this purpose we recommend the Mongolian as in every way better suited to our climate. It is more hardy and very prolific.

Judge Denny, in a letter to Mr. Forehand of Worcester, says: "In reply to yours, I have the pleasure of saying that twenty-eight birds were sent to Oregon in 1881. Their phenomenal increase is apparent when I tell you that the game warden, Mr. McGuire, estimates the number killed last season, in three months, in Linn County alone, at thirteen thousand; and that a year ago last winter, when the sleet and snow were on, twelve hundred dozen were sent to one dealer in San Francisco."

The difficulty has been to get the pure Mongolian.

Through the kindness of Mr. S. Forehand of Worcester, who visited Oregon and made the acquaintance of Judge Denny, who selected and bred the pure Mongolian in China, and afterwards introduced them into Oregon, we are in possession of this breed directly from the stock imported by him.

Pheasants.

There are many kinds of pheasants, but only two of them are desirable as game birds, — the English and Mongolian. The English, as it is called, is evidently a made-up bird, and does not always breed to form and feather. The ring on the neck is sometimes wanting. In form it more closely resembles the Mongolian than any other variety. In disposition it is comparatively logy and tamable, and when artificially bred may be taught to eat food from the hand of the breeder. The hunting of these birds in England shows that they fall an easy prey to the sportsman, if such name can be applied to the wholesale slaughter of these birds by unskilled marksmen.

The Mongolian is a more active, nervous and untamable bird, more wary, and constantly on the alert. His wealth of plumage and stately bearing distinguish him from other pheasants. Coming, as he does, from northern China and southern Siberia, where winters are severe, he is in every way better adapted to our New England climate than is the English.

Another important point is that they are more prolific. The English, in confinement, lays from twenty to thirty eggs during a season, and the Mongolian from sixty to eighty. In Oregon, where they were introduced by Judge Denny, they have two and sometimes three broods a year.

There are several parties in New England who have pheasants, some of whom honestly believe that they have the true Mongolian; but from a careful and thorough investigation I am satisfied that outside of our aviaries there is not a single pure Mongolian pheasant this side of the Alleghanies.* One gentleman, residing near Cleveland, O., succeeded in obtaining a number of them from Oregon just before the law was passed prohibiting the exportation of pheasants from that State; otherwise I do not know that any of these birds can be found this side of the Pacific slope.

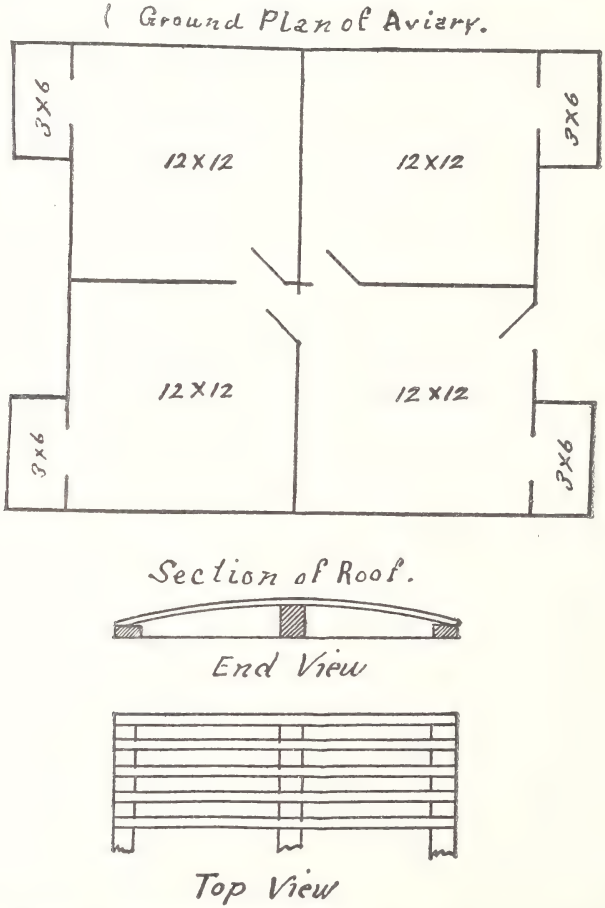
A number of persons are breeding the English pheasant for stocking our woods. They will undoubtedly cross with the Mongolian; but beyond the loss of time and money no harm will come of this, for it will be a survival of the fittest, and under the same conditions the Mongolian will come to the front every time.

Few things about a homestead can be more interesting than a well-stocked aviary of these birds, while the farm is rendered doubly attractive by their beautiful plumage flashing in the sunlight, as they sweep over the fields and through the forests.

* Since the above was in press, I have received information of two persons in Connecticut who obtained a few of these birds from Oregon.

The Aviary.

The aviary may be built in almost any shape to suit the taste of the owner. It should have, however, not less than one hundred and forty-four square feet of ground room for a quartet of birds. As the success in breeding depends largely on the health and vigor of the breeding birds, it is well to have duplicate apartments, where the birds



can be turned in, in April, and the ground in the old one strewn with phosphates, spaded well, sown with herds-grass and clover seed, and allowed to remain until the first of September, when they can be returned, and number two be made ready in the same way for occupancy in the spring. Unless the aviary is very large, this rotation is necessary in order to raise good stock, as it keeps the ground in healthy condition and provides much good food for the pheasants.

As a matter of convenience and economy, it is desirable to build the aviaries in groups. The ground should be dry and a little sloping, that heavy rains may run off freely. I built one as follows: measured off a piece of land twenty-four feet square, set posts at the corners and along the lines, sawed off even with the ground; made frames of two by two inch joists, twelve feet long and six and one-half feet wide; boarded the lower part, two feet and one-half, closely, and covered the upper part with wire netting, two-inch mesh. Twelve of these frames were made, set upon the posts and fastened together with rag screws, giving four apartments, each twelve feet square. On the side of each I built a small projection, three feet wide, two feet high and six feet long, top covered with water-proof paper, and opening into the aviary. This was for giving dry earth to dust in, and for shelter if they chose to take advantage of it, — which they rarely do, however, preferring to remain out in the roughest weather, day and night.

Those who breed English pheasants do not cover the top of the aviary, but prevent them from flying over by clipping one wing. This would not always be safe with the Mongolian. I have repeatedly seen a Mongolian cock, with a close-cropped wing, fly up, strike the wire netting, and with feet and wings climb to the top, and, had it not been covered, would have escaped.

I made my roof by making frames twelve feet long by four feet wide, of two-inch strips of board, with a two by two inch joist lengthwise through the centre, crowning the laths, which were laid across the frame two inches apart, and nailed to the sides and centre. Three of these frames or sections were required for each apartment, and by running a joist across the middle of each apartment, supported by a post under the centre, it makes a roof sufficiently strong to resist any weight of snow likely to fall upon it.

I dug a trench at the bottom, one foot deep, and set boards close together and nailed them to the base, and then filled in with rubble-stone and covered with earth, making it vermin proof. Roofing slate would answer much better than boards, as it would not decay.

As the Mongolian pheasant lays from sixty to eighty eggs a season, two or three aviaries would give all the eggs a beginner would care to handle the first year.

Food for the Breeding Pheasants.

Pheasants, like the turkey, prairie chicken and quail, will be found in the spring, summer and autumn in pastures where there are low bushes, in grass lands, in fields of growing crops and in meadows near running streams. They feed on green food, bugs, worms and insects of every description. In winter their food is scrub-oak

acorns, barberries, haws of the wild rose, berries of the privet, moss found on trees and stumps, grass seed and such evergreen food as they can find. It is not known whether they feed on buds or not.

In confinement, feed them on wheat, cracked corn, scalded Indian meal with a little fine-ground beef scraps and a dash of cayenne pepper mixed in, barley, buckwheat and chopped cabbage. Feed no more than they will eat up clean, and keep fresh water, ground oyster shells and sand by them.

About the first of March withhold the Indian meal and cracked corn, and feed with cabbage, lettuce and grain, — rather short allowance, for if the birds get too fat it will interfere with their laying. All birds and animals indigenous to this climate come into the breeding season reduced in flesh.

Put evergreen boughs up against the sides of the coop in several places, for the pheasants to run under. In confinement they seldom lay in nests, but drop their eggs, morning and evening, promiscuously over the yard. They must be gathered up at once, packed in cotton and set away in a cool place. They will keep two or three weeks, but it is better to set them as soon as possible after they are laid. As the pheasants sometimes eat their eggs, it is well to keep a few glass eggs in the yard, where they can peck them if they are so inclined.

Brooding Hens.

Pheasants can be reared with more or less success under any small hen; none, however, can compare with the bantams, and of these the Pekin is by far the best. No one intending to raise pheasants should be without a full supply of these patient, gentle little mothers.

Keep the bantams in a yard and coop by themselves, with plenty of room to dust. Everything should be done to keep them free from lice, as they are sure death to young pheasants. The following treatment, so far as I have been able to test it, has worked to my entire satisfaction: put one-quarter of a pound of bar soap in two quarts of water, and boil until entirely dissolved, then take it out of doors and add two quarts of kerosene. Churn it with a hand pump five or ten minutes, or until it is thoroughly mixed, then set it away in a cool place, and it will keep good for several months. Six or eight weeks before the hens are wanted for sitting, put half a pint of the mixture into a pail and pour in hot water to dissolve it; add one quart of naphtha, churn well together, fill up the pail with water, and about 4 P.M. syringe every part of the hen-house, driving the liquid into every crack and crevice with the force pump. When the hens go to roost, shut the house up tight. This had better be repeated several times during the season. To make it doubly sure, when setting the

bantams rub some of the mixture with the fingers under the wings and on the neck of the hen, and saturate a piece of cloth or sponge and put it in one corner of the coop.

Arrangements for Hatching.

Make a box without top or bottom, twenty inches long, fourteen inches wide, twenty inches deep at one end and fourteen at the other. At the bottom of the deepest end cut an opening eight inches square, fitted with a slide so that it can be shut at pleasure. Cut a slot three by six inches on each side of the box, and cover it with half-inch-mesh wire netting, to give air to the hen and chicks. Cover the bottom with one-inch-mesh netting, nailed firmly on. Make two frames for covers the size of the top; cover one with wire netting, two-inch mesh, and the other with water-proof paper. Put a cleat on the box, so that one or both covers can be used. Paint the box inside and outside with paraffine varnish, or, if that cannot be had, with coal-tar mixed with air-slacked lime The odor of either will drive away any insects without injury to hen or chicks.

For the yard make frames four by four feet and two feet high, of two-inch strips of board, cover two sides with half-inch wire netting, one end with laths nailed on perpendicularly, two inches apart, and the other end with laths nailed close together; at the bottom of this end, near the centre of the frame, cut an opening eight inches square; set the frame close to the coop, so that the hen and chicks can pass freely from one to the other. For the top of the yard make two frames, one three by four feet and one one by four feet, and cover both with two-inch-mesh wire netting. Fasten the large one on and leave the smaller one movable. Place on sloping ground if possible, and dig a small trench at the upper end, to turn the water aside.

Cut a sod the size of the box and two inches thick, and remove some of the earth from the roots near one end in the shape of a nest. Lay it in the box, grass side up, with the nest at the upper end, and with a mallet or stick of wood pound the nest into shape, and put a little fine hay or chaff in it. A nest made in this way will not become damp nor allow the eggs to roll out. Put glass eggs in the nest, and at night set the hen. Put plenty of food and water in the yard, and the next day open the slide so that she can go out to feed. If she returns to the nest, all right; the glass eggs can be removed at night, and pheasant eggs put under her. If she does not return, put her on the nest and try her again.

It requires about twenty-four days to hatch pheasant eggs. Look after them occasionally when the hen is off, and if any eggs are broken remove them, or if any are soiled cleanse them with warm water and a soft cloth or sponge. With Pekin bantams for brooders

broken or soiled eggs are seldom found. Always be sure that the box is shut at night. When the chicks are due, remove the food from the yard and put some in the box, and shut it so that the young pheasants cannot escape. As soon as they are all hatched, lift the hen gently and remove the egg-shells. This should be done with care not to frighten the chicks, and if any run out put them back under the hen. Persons whose experience has been confined to the English pheasant will find a marked difference in handling the Mongolian.

Food and Care of Young Pheasants.

Now comes the most difficult part of the work, for young pheasants, like young turkeys, are for the first two or three weeks very tender and hard to raise unless properly fed and cared for. There are a few rules that cannot be departed from without serious results. First, never allow the young birds, for the first two or three weeks, to get chilled, as it is almost certain death to them. Do not give any food for the first thirty-six hours, and little or no water for the first week unless the weather is very hot and dry. See that they are all in their coops at night, and shut up.

After the first thirty-six hours feed a little at a time, several times a day, maggots, if they can be had, if not, custard, made without sugar and thickened with corn meal and finely chopped lettuce. Stir a very little meat crissel or finely ground beef scraps into the custard. When the birds are allowed to run out to forage the lettuce may be omitted. When they are three or four weeks old feed a little cracked corn and wheat, well soaked or scalded, increasing the amount as they grow older.

In their wild state young pheasants get very little food for the first two or three weeks, and it consists of small bugs, worms and insects, with more or less sand and a little green food. If we judge by the size of the broods, the wild mother pheasant brings up nearly all of her chicks.

As it is not possible to obtain to any considerable extent the same conditions which surround them in fields and woods, breeders have adopted various ways of feeding. We give below some of these methods.

Judge Denny of Oregon, who so successfully introduced them into that State, bred them, while consul to Shanghai, feeding them on ant eggs, a material not to be had in any quantity here.

English breeders feed on hard-boiled eggs and rice, allowing them to run out in enclosed grass land to forage for insects and green food.

Mr. Lownsdale, Lafayette, Ore., feeds on the custard without sugar, mixed with corn meal and lettuce, and a daily ration of

crickets, until they are about four weeks old, and they are then taught to eat wheat.

Mr. E. A. Stiles, game warden for the Liberty Hill Club, Connecticut, and a successful breeder of English pheasants, writes: "My birds begin to lay about the 25th of April. The number of eggs that a single bird will produce in a season varies from fifteen to forty. No nests are required, as they drop their eggs at random. The eggs should be gathered as soon as laid, as otherwise the birds may acquire the habit of eating them. In regard to rearing, the most important thing is to keep the chicks dry. Until they are a month or six weeks old it is death to them to run in wet grass. For the first few days I feed the young pheasants on custard cooked over a slow fire, also maggots and ant eggs, if I can get them. I think your way of obtaining maggots an excellent one. I find that a little meat crissel goes a good way. Too much will give the birds dysentery, — a very dangerous disease. Neither do I advise feeding too many maggots. Millet, canary and hemp seed may be given with the custard, and also chopped lettuce, cabbage and onions. When the birds are a month old, some wheat and cracked corn, soaked soft, may be given. The chicks should always be confined with the hen until they learn her call, and then they may be given their liberty until they are several weeks old; then, if they are to be kept under control, they should be put into a covered coop. Old birds lay better than young ones."

Mr. W. L. Gardiner of Norwalk, O., a sportsman and breeder of pheasants, says: "I feed on maggots until six or eight weeks old, — no grain or other food of any kind. I raise the maggots on beef's liver, hung in barrels with about three inches of bran on the bottom, kept moist. Do not feed until the maggots are well grown. Never feed the young pheasants until they are twenty-four hours old, and feed the old hen corn as well, as, if she eats too many maggots, they will kill her. Keep livers enough to have plenty at all times. Set barrels in a partially shaded place, and cover the top partially. The meat will be alive in three days, but not fit to feed for six days or more. The chicks must also have soft food, something easily digested, not constipating nor too loosening. They will stand any weather, but must be kept fed." Mr. Gardiner states that he raises ninety per cent. of his birds.

From the above statements it will be seen that various methods are recommended for feeding young pheasants, all of which are claimed to be more or less successful.

In the beginning of the breeding season, 1895, not having my arrangements completed for raising maggots, the first young pheasants were fed on hard-boiled eggs and custard thickened with Indian

meal. However successful this may be in rearing English pheasants, it failed with the Mongolian, and we had the misfortune to see the coops strewn with dead birds. As soon as we were able to feed with maggots the death rate ceased, and scarce a half-dozen birds were lost from feeding or disease of any kind. The method pursued was so simple and so successful that it may be of value to those who are interested in raising these birds.

The yards, coops and nests were made as heretofore described. Too much care cannot be given to the construction of the nest. If rightly made, the outer eggs will receive as much warmth from the hen as those in the centre, and all will hatch at about the same time. This is very important, if you expect to have healthy birds. From thirteen to fifteen eggs were placed under each bantam, and in more than half the sittings every egg hatched, and the time between the hatching of the first and last eggs did not usually exceed three or four hours.

Most of the hens used for sitters were game bantams, and they made very good mothers, but were nervous and cruel to young birds belonging to other broods that strayed into their yards. In this way a considerable number were killed after they were three or four weeks old. When the coops and yards are made alike and placed near each other, this loss is likely to occur; and when it is possible to obtain Pekin bantams, they should be used in preference to any others, as they will cover more eggs and have not the nervous character of the game bantams.

A day or two before the eggs were expected to hatch the hen was shut into the box, as the chicks often escape from the nest almost as soon as they leave the shell, and get chilled. When the chicks were about twenty-four hours old the hen and her brood were moved to another coop, with yard attached. The nest in this is made of sod, grass side up and nearly flat, the old nest being too small and deep to allow the hen to brood over all her chicks without danger of smothering them. In moving them the hen was put into the yard with food and water, and the chicks were put in the new nest. When the hen had fed, the slide was opened to let her in to the nest, then the slide was shut and they were left undisturbed for twenty-four hours, when the top was opened, the hen removed to the yard to feed, the chicks fed sparingly on maggots, and the hen allowed to go back. Until the chicks were three weeks old they were fed entirely on maggots.

At the end of the little yard, next to the coop, two pieces of board a foot long and ten inches wide were fastened in the corner, making an enclosure for keeping the food and water for the hen where the chicks could not get it until they were old enough to fly over to it.

The grain and water for the hen were kept clean and fresh, in two small glazed dishes.

The food for the sitting hens was the same as that given to the young pheasants after they were three or four weeks old, and consisted of one quart of whole wheat, one-half pint each cracked corn and Indian meal, a small handful of ground oyster shells, one spoonful each ground beef scraps and ground bone, all thoroughly mixed in a pan and boiling water poured over it, letting it stand several hours before using. When the chicks are strong enough to go over the little food enclosure, they will begin to feed on it; and by the time they are three or four weeks old it will constitute a greater part of their living, one ration of maggots per day being enough.

The arrangement for raising maggots is simple, and easily constructed. A small house, six by eight feet and six and one-half feet high, was framed and covered with matched boards. Four windows were cut in it, but instead of glass they were covered on the outside with one-quarter-inch-mesh wire cloth, and solid shutters hinged on the outside. A ventilator eight inches square and twelve feet high was attached to the roof. By opening the door and windows, the house was sufficiently ventilated in a short time to do what work was necessary inside. Across one side, near the top and about ten inches from the boarding, a two by two inch joist was fastened, and thickly studded with small meat hooks. Twenty inches below this were placed hopper-shaped boxes, eighteen inches square at the top, twelve inches at bottom and seven inches deep, the bottom covered with one-quarter-inch-mesh wire cloth. Below these were arranged tight drawers, eighteen inches square and four inches deep, around the tops of which were nailed strips of tin projecting inward about three-fourths of an inch, to prevent the maggots crawling out.

After many experiments, we found that sheep plucks were the cheapest and most available material for the purpose, thirty-six plucks a week producing enough food for about two hundred young pheasants. Three times a week from six to twelve plucks were spread, in the morning, on a hurdle covered with inch-mesh wire cloth, set out of doors, and by night were fully blown, when they were taken into the house and hung on the hooks. Seven plucks will produce from four to seven quarts of maggots. The hopper boxes were about half filled with a mixture of wheat bran and ground beef scraps (one quart of scraps to six of bran), thoroughly mixed and moistened with water. As this decomposes more slowly than the meat, it is well to mix it a day or two before the plucks are hung up. In about twenty-four hours (depending somewhat upon the temperature) the meat will be alive with maggots, which soon drop into the bran, where they find additional food and then drop into the drawers

below. They are not in condition to use until the fourth or fifth day after the meat is blown, but if not then placed in a cool place, will change to the chrysalid state, unfit for the chicks, in a few hours. By placing them in a refrigerator as soon as fully grown, where the temperature does not exceed 45°, further development is arrested, and they may be kept for several weeks.

All this may not seem very enticing work, but it is a necessity, as this or some equivalent must be used for food to insure success in raising Mongolian pheasants. The chicks are so small and tender for the first two or three weeks that all efforts to raise them on the food recommended for the English pheasants end more or less in disappointment.

After we began to feed on maggots the loss from disease was slight, but a considerable number was lost by accidents, nervous game bantams, and hungry cats that sometimes grew so bold as to climb over the fence into the large enclosure. When the young pheasants were but three or four weeks old they flew over into the garden and the adjacent woods, and many became the prey of marauding cats, my only compensation being that several cats came to an untimely end.

The treatment of the young Mongolian was quite different from the directions given for raising English pheasants. After the first week the board was taken away from the little yard, and the birds were allowed to go at pleasure into the large enclosure, shutting them up at night and letting them out in the morning, often by five o'clock, making no effort to keep them out of the wet grass or rain. They sometimes came in dripping, but did not seem any the worse for it. As Mr. Gardiner says, they will stand any weather if properly fed. Coming from the rough climate of northern China and southern Siberia, they suffer more from the heat in July and August than from the most severe winter weather.

Pheasant eggs are generally fertile, and under favorable circumstances will about all hatch.

There are very few diseases that pheasants are subject to. The most common is roup, which attacks the chicks when from one to three weeks old, and is most prevalent in cold, damp weather, and generally the result of getting chilled. As soon as one is affected with it, remove it, and move the coop to new ground. Keep the birds dry and warm, and they will not be much troubled with it.

Young pheasants sometimes develop weakness in the legs, which comes from sitting on cold, hard ground or on boards. If they are left in the coop, the others may pick upon them and perhaps kill them. Remove them to a place where they can have plenty of soft bedding, food and water, and they will soon get over it.

In handling pheasants, young or old, be careful to take them by the body, as their legs are easily broken.

In raising maggots, it is well to remember that if it is intended to raise them in large numbers flies must be provided for that purpose. This is done by allowing a small part of each crop to mature. Flies are very prolific, depositing their eggs in a few hours, after which they die. If it is expected to have the meat well covered with eggs, a sufficient number of breeding flies must be ready when wanted. In my first efforts in this direction I did not regard this, as I had no idea that the supply of flies would give out, but soon found my mistake. If you are in touch with the Darwin theory, and have any regard for the survival of the fittest, you will set steel traps around the house, and one or two on top of posts set for that purpose. Homeless cats that ought never to have been, skunks, hawks and owls will contribute to swell your stock of food for the young pheasants.

Stocking.

Birds let loose in an unfamiliar place will be likely to scatter in every direction, and in a few days may be miles apart. To avoid this it may be desirable to make small coops of laths about six feet square and two feet high, with a small door that can be easily opened, in one side. Place this coop in a quiet, partly shaded place, put the pheasants in it, and feed and water them for two or three weeks; then put plenty of food in, and quietly leave the door partly open, so that they can go in and out at will. If they are not frightened away they will come back to feed all through the fall and winter, and in that way will establish a locality in the vicinity where they were let out, and will be of interest to the farmer as well as to the sportsman.

Judge Denny of Oregon, where they have become so plenty, says: "They have proved of great benefit to the farming and other agricultural pursuits in this State, in that they feed upon the pests and enemies of the crops — worms, grubs, borers, cutworms, flies, codling moths, aphis and other insect life, including their larvæ — without doing any harm to the crops."

The farmer can keep them on his farm by building a shed or lean-to in a sheltered place, or by standing boards up against a wall sufficient to keep bare ground on which to scatter grain or cracked corn during the few weeks of deep snow. The birds will learn to come for this food, instead of seeking it elsewhere. The location of all animal life is a question of food.

As an illustration of the hardiness of these birds, I will state that there was sent me from Vancouver, last August, a small box containing one hen and six small pheasants about three weeks old. They were eight days on the journey, with no other food except dry wheat and water. When the box was placed in the aviary and opened, they

burst from it like rockets. Some of them were so small that they went through the two-inch mesh of the wire netting, but returned at the call of the mother hen. Owing to the fact that there was no bedding on the bottom of the box, two of them developed some weakness of the legs, but soon recovered. I have fed them on corn meal mixed with a very little ground beef scraps, cracked corn, wheat and chopped cabbage; and more healthy birds could not be found. Being a very late brood, they were not more than half grown when fall snow came; and yet they frolicked and skipped through it as if it were their natural element. Provided with shelter, they refused to take advantage of it, preferring to remain out day and night, no matter what might be the weather.

The addition of the Mongolian pheasant to our fauna, with his splendid plumage, stately bearing, advantage to the farmer and interest to the sportsman, would more than repay for any extra care that might be required in some places for his maintenance and protection.

E. A. BRACKETT.

[I.]

Lobster Returns.

1895.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
Custodio Goveia, Manuel P. Silva, John M. Moura, John M. Pinta, Joseph Gasper, J. P. Serrilha, Frank Saffrain, A. F. Ferreira, Manuel Silva, Joseph Rogers, M. De Rosa Deis, Andrew Ferreira, Antone P. Silva, Antonio Francis, Antonio Silvia, J. K Ferreira, M. E. Grace, Antone Silvia, Joakuim Perry, Graciano Rio, Peter Silvia, Salvadore Oliver, Joseph Severino,	Boston,	2,243	111,012	2,720
Charles C. Foster,	Beverly,	30	625	24
F. C. Leonard,	Bournedale,	50	3,044	141
Geo W. Sargent,	Bay View,	50	1,715	38
Joseph E. Cahoon, Charles Tailman,	Barnstable,	100	2,555	192
Arthur C. Manter, A H. Taylor, H. P. Taylor, D. B. Blackman,	Brant Rock,	124	9,895	81

Lobster Returns — Continued

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
Rodney P. Reed, E. A. Pool, W. S Mayhew, L E. Cottle, Onslow Stewart, G. H. Butler, Jr., L. E. Atheron, C. L. Cleveland, Franklyn Tilton, G. H. Butler,	Chilmark,	230	7,600	339
Darius Weeks, Joshua Keeney, A. P. Tilton, R. W. Rotch, Z. A. Cottle, W. E. Jameson, John Manley, C. C. Allen, John F. Cornell, H. J. Allen, D. P. Bosworth, F. M. Cottle, Samuel Jackson, Richard Beebe, Frank Peters, O H. Stetson, L. D. Mayhew, J. W. Tilton,	Cuttyhunk,	738	52,799	3,062
Theodore Ferdinand,	Cambridge,	100	1,698	–
H. F Gould, R. T. Bearse, Arthur Baker, Geo. F. Rogers, F. B. Nickerson, W. A. Bloomer, F. W. Baker, Robert Ellis, E. S. Gould, A. H. Bearse, S. W. Nickerson, F. Bloomer, J. F. Eldredge, J. D. Bloomer, O. C. Eldredge, W. F. Hitchings, G. M. Eldredge,	Chatham,	1,743	44,410	1,486

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
Oscar M. Gould, G. W. Bloomer, W. R. Bloomer, A. S. Hammond, Thomas Holway, Richard Gould, B. E. Bassett, E. Z Ryder, D. C. Harding, Seymore Patterson,	Chatham,	1,743	44,410	1,486
L. S. Thurston, Geo. Boutin, H. A. Jordan, Chas. Boutin, R. F. Swift, W. H. Phinney, Geo. Atwell, Chas. Rogers, H. L. Sampson, Augustus Hadaway, John M. Sampson,	Chiltonville,	490	31,249	1,501
Joseph J. Grassie, Manuel P. Valine, Chas. Anderson, A S. Figueredo, Oscar Anderson, R. W. White, Manuel S. Almas, Manuel S. Thomas, J. F Bandura, B. A Atwood, Levi Cadoza, Manuel E. Salvador, James Anderson, John S. Rebeiro, John M. Smith, Geo. E. Antonie, Manuel Vandura, F. E Salvador,	Cohasset,	1,295	80,082	2,342
Frank E Phillips, Geo. F. Freeman, O. C. Hunt, Frank E. Wadsworth, W. E. Peterson, Edmund Marsh,	South Duxbury,	444	29,975	255

Lobster Returns—Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
J. W. Snow, Isaac Symmes, W. E. Freeman, C. E. Peterson, J. H. Mack, J. K. Burgess,	South Duxbury,	444	29,975	255
R. R. Nickerson, M. L. Howes, Geo. E. Hall, J. E. Ellis,	Dennis,	74	1,416	156
W. A. Gifford, C. F. Manchester,	Dartmouth,	50	2,298	189
H. O. Hillman, John Bunker,	Edgartown,	80	5,143	314
B. P. Childs, W. A. Grew, A. T. Chadwick,	Falmouth,	23	580	92
Walter Marchant, Melvin Parsons, A. & H. Parsons, Frank S. Alba, Henry W. Nelson, D. N. Mehlman, E. L. Small, Joseph Douglass, John Swinson, Wm. S. Parsons, E. F. Parsons, Fred Parsons, Chas. Nason, Joseph Parsons,	Gloucester,	649	44 186	686
Wm. H. Tallman, Lyman Sears, Geo. Delano, Oscar A. Chandler, Geo. Sampson, C. B. Cushing, Elbridge Perkins, Chas. R. Peterson, Wilfred Keene, Thomas Pezzy, F. N. Bencordo, E. R. Lapham,	Green Harbor,	447	28,635	376

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
J. H. Foster, A. F. Colvin, C. H. Ryan,	Gay Head,	90	3,093	139
F. Smith, B. F. Pope, Daniel Souther, M. McDonald, A. B. Cleverley, Andrew Galliano, A. B. Mitchell, John Reed, Alphonso Cleverley, A. F. Pope, E. F. Pope, J. H. Smith,	Hull,	775	52,496	1,058
O. S. Crosby, H. L. Lambert,	Hyannis,	80	3,746	447
Rust & Grant,	Ipswich,	20	1,356	57
J. J. Woodbury, Warren Poland, J. W. & H. Marchant, Elias Haraden, W. H. Sargent, J. W. Roberts, G. H. Woodbury, A. W. Riley, Addison Woodbury,	Lanesville,	254	5,537	244
Lilburne Hiller, W. L Richmond, J. J. Nye,	Mattapoisett,	61	1,576	214
Arthur Frost, B. F. Swett, James S. Stone, Chas. O. Briggs, Stephen Smith, Wm. H. Tutt, John W. Florence, R. F. Russell, J. W. Smithers, Sans Stanley, C. H. Smithers, J. H. Hennessey,	Marblehead,	849	67,865	3,759

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
S. K. Stone, J. H. Magee, Richard Farry, J. G. Stacy, R. T. Millett, Wm. J. Dodd, John Adams, Wm. F. Allen, F. F. Atkins,	Marblehead,	849	67,865	3,759
Wm. S. Douglass, John G Burnham, E. L. Story, C. G. Story, J. B. Knowlton, David Worth,	Magnolia,	300	18,724	1,221
Thomas Dow, Chandler Lewis, L. O. Sargent, Chas. Sargent, J. H. Dow, J. H. Heath,	Manchester,	135	5,701	163
G. W. Holmes, C. H. Dixon, L. B. Briggs, J. H. Valler, Geo. A. Manter, H. C. Bennison, Cornelius Briggs, Jr, W. J. Nightingale, A. A Nightingale, C. W Holmes, Jr., Stephen Holmes, Wm. Harlow, M. L. Chandler, James Gould, Chas. Wakefield, Samuel Bartlett, Thomas Jordan, Henry Dodge, Frank Peterson, S. B. Blackmer, W. H. Peterson, Robert Richards, Thomas Stevens, S. B. Nightingale,	Manomet,	1,260	77,402	1,763

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
C. W. Taylor, G. W. Taylor, Geo H. Lamphin, C. E. Gove, Samuel Covell,	Nahant,	165	9,635	186
Anthony Fratus, Joseph Marshall, Manuel Flores, C. P. Matterson, John Seter,	New Bedford,	325	17,880	1,261
John Johnson, C. H. Place, Chas. Wilson, Samuel M. Babbitt,	Nantasket,	200	9,138	104
Edward Welden, A. & C. Brooks, Jesse Leed, John Watkins, John Sandsbury,	Nantucket,	112	8,816	453
F. H. Hayden, Caleb Hayden,	Orleans,	30	1,218	107
Thomas B. Walker, H. D. Cleveland, A C. Sampson, A. M. Watson, Jr., Jerome Stone, J. P. Thurston, S. P. Burgess, John M. Watson, James Deacon, G. W. Tarr,	Plymouth,	408	30,144	482
A. J. Emery, W. C. Snow, J. D. Smith, J. C. Lenten, W. H Kenney, J. W. Savage, David Newcomb, F. M. Bowley,	Provincetown,	247	7,133	1,162
C. N. Morgan, Chas. P. Babson, Fred Johnson,	Pigeon Cove,	109	8,447	371

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
C. P. Peterson, . . .	Quincy, . .	60	3,378	13
Geo. E. Wendell, .				
Wm. Stillman, . .				
J. E. Shehan, . .				
Amos Lufkin, . .	Rockport, . .	483	26,337	758
Peter Dixon, . .				
Michael Slavin, .				
Wm. E. Norwood, .				
C. W. Gott, . .				
J. F. Cushman, . .				
Chas. Decosta, . .				
Wm. Ward, . .				
E. P Pratt, . .				
Daniel Ward, . .				
John Welch, . .	Scituate, . .	542	38,868	926
Everett Litchfield, .				
Oscar Palmgreen, .				
J. McCarty, . .				
Robert O'Hearne, .				
Geo. F Edson, . .				
C. Driscoll, . .				
E. W. Haines, . .				
Geo. L. Hawes, . .				
Chas. E. Hoxie, . .				
Jesse D. Smith, . .	Sandwich, . .	201	5,720	470
S F. Cushing, . .				
F. C. Burbank, . .				
C. H. Parker, . .				
W. J. Jones, . .				
Edward Marsh, Jr , .				
G. A. R. Horton, .	Swampscott, .	225	19,844	285
L. D. Woodbury, .				
Thomas E. Stone, .				
A. F. Pool, . .				
L. W. Mayhew, . .				
A. E. Reed, . .	Squibnocket, .	62	3,820	111
J. E. Tilton, . .				
Ezra Pierce, . .	Sagamore, . .	60	1,113	133
A. H. Gibbs, . .				
John Clark, . .				
W. P. Foye, . .	Salem, . . .	215	9,143	233
Henry G. Tucker, .				

Lobster Returns — Continued.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
A. E. Souther, Wm. L. Fowler,	Salisbury,	93	1,100	133
G. A. Rogers, G. W. Manter, Geo. H. Luce, J. R. Cleveland, J. R. Tilton,	Tisbury,	118	2,604	133
C. H. Collins, Richard Lombard,	Truro,	70	1,442	293
O. D. Bradley, H W. McLellan, L. E. Smith, M. F. Cleveland, F. C. Vincent, Geo. E. Dolby, F. M. Chase, A. B. Lewis, Fred Weeks, Herbert Crocker,	Vineyard Haven,	167	4,618	827
Thos. J. Brightman, Geo. A. Gifford,	Westport,	95	5,186	496
James R. Purdun, N. C. Phinney, Thomas Hinckley, P. M. Stewart, H. P. Phinney, F. R. Gifford, L L. Adams, A. E. Bragg, O. C. Grinnell, H. H. Hilton, Martin L Lawson, F. L. Gifford, E. F. Donnelly, P. W. Wainswright, J. J. Veeder, Walter Nickerson, Alfred Nickerson, J. F. Cook,	Wood's Holl,	305	23,834	2,036

Lobster Returns — Concluded.

PROPRIETOR.	TOWN.	Number of Traps used.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
John Wadsworth, J. B. Wyman,	Winthrop,	105	9,948	248
Herbert Lovell,	Yarmouth,	24	586	63
Totals (men, 377),		17,205	956,365	34,343

Comparison of Returns of Lobster Fisheries.

YEAR.	Number of Men.	Number of Traps.	Number of Large Lobsters taken.	Number of Egg-bearing Lobsters liberated.
Increase of 1894 over 1893,	54	3,291	–	2,156
Decrease of 1894 below 1893,	–	–	52,898	–
Increase of 1895 over 1894,	–	–	–	–
Decrease of 1895 below 1894,	48	3,098	140,469	554

GILL AND SWEEP NETS—1895.

Gill and Sweep Nets.

1895.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.
J. N. Babbett,	Berkley,	–	300	10,000	–	–
J. H. Winslow,	Brewster,	–	–	175,386	–	–
Thomas James,	Bay View,	–	–	–	36,300	–
C. D. Hammond,						
C. C. Nickerson,						
E. Z. Ryder,						
F. Bloomer,						
A. Z. Atkins,						
W. T. Tuttle,						
A. W. Smith,						
W. F. Hitching,						
John S. Ryder,						
R. T. Bearse,	Chatham,	–	–	108	–	4,060
Geo. W. Bloomer,						
A. H. Bearse,						
Seymore Patterson,						
W. A. Bloomer,						
O. C. Eldredge,						
J. F. Eldredge,						
E. S. Gould,						
H. F. Gould,						
F. G. Kelley,						
W. C. Kelley,	Centerville,	–	156	62,600	5,000	–
W. W. Hallett,						
Ainsley & Almas,	Cohasset,	–	1	36	1,603	42
Wm. S. Mayhew & Bros.,	Chilmark,	–	–	–	–	–
Nehemiah Edwards,						
A. J. Edwards,						
F. H. Mayo,						
M. L. Howes,						
Geo. E. Hall,	Dennis,	–	–	2,891	18	–
W. E. Greenleaf,						
J. H. Long,						
A. P. Howes & Co.,						
J. E. Ellis,						
C. N. Simmons,						
J. A. Hardy,	Dighton,	–	1,758	804,475	–	–
E. D. Perry,						
J. H. Jones,	Falmouth,	–	–	19,450	–	–
Joseph Parsons,						
B. F. Brazier,						
Frank Sanders,	Gloucester,	1	–	3,550	307,753	–
Thomas Douglass,						
Edwin Taylor,	Hyannis,	–	–	–	–	3,401
J. J. Woodbury,						
A. H. Riley,						
E. Woodbury,	Lanesville,	–	–	21,405	71,183	175,200
J. W. Roberts,						
J. W. & H. Marchant,						
R. C. Glass,						
B. F. Stevens,	Marblehead,	–	–	1,558	16,800	900
C. E. Rogers,						
Henry Cotton,	Medford,	–	–	280,823	–	–
Chas. H. Hewes,	Merrimac,	–	–	37	–	–
G. W. Holmes,	Manomet,	–	–	12	3,300	6
Nester Thurlow,						
C. A. Caswell & Co.,	Newburyport,	–	–	–	1,223,600	70,400
G. G. Short,						
Jonathan Morrill,	West Newbury,	–	94	12	–	–
Wm. P. Goodwin,						
M. J. Francis,						
Geo. H. Hamblin,						
W. J. Fisher,	Nantucket,	–	–	–	–	3
Manuel Thomas,						
H. E. Dunham,						
T. F. Ellis,	Orleans,	–	247	–	33,475	–

Gill and Sweep Nets.

1895.

Striped Bass.	Scup.	Squeteague.	Sea-bass.	Butter-fish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	85	-	-	-	-	-	-
80	-	1,102	-	20	85	15,125	2	2,902	-	-	-	215
-	-	337	-	334	-	12	-	4,402	10	9	-	-
-	-	-	-	-	-	350	-	-	-	2	-	-
-	40	291	-	-	-	-	-	678	-	357	-	-
-	-	79	138	90	-	2,848	-	4,347	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	172	-	3,933	-	-	-	-	-	1,610
-	-	1	-	-	-	-	-	162	32	-	-	-
-	-	-	-	-	-	30,019	-	-	-	-	-	-
-	627	-	-	3,052	-	8,562	-	-	-	2,728	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	7	-	-	49	-	131	-	-	-	-	-	1,942
-	-	-	-	-	-	-	-	-	-	-	-	8,963,240
3	-	-	-	-	-	-	-	-	-	-	-	-
-	12	-	-	33	642	-	-	6,274	-	4	-	-
-	-	-	-	-	-	3	-	469	781	300	-	-

Gill and Sweep Nets — Continued.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.
Seth Nickerson,						
David L. Smith,						
Joseph Patrick,						
Boniface Silva,						
J. Fuller,						
S. L. Ellis,						
Jonathan Sparrow,						
J. F. Atkins,						
Martin Silva,						
Prince Freeman,						
John Atkins,						
M. S. Brown,						
Wm. Newcomb,						
Frank N. Days,						
Bangs & Lewis,						
Joseph Ellis,						
R. G. Tarrant,						
Wm. Ewell,						
Henry Atwood,						
John Dolan,						
H. L. Mayo,						
Wm. A. Nickerson,						
E. H. Tillson,						
R. W. Cook,						
Wm. Dyer,						
J. D. Smith,						
Joseph Wolff,						
J. C. Lurten,						
A. L. Daggett,						
John O'Donnell,						
Manuel Tarvis,	Provincetown,	–	17,705	4,000	290,541	19,412
J. H. Emery,						
A. W. Newcomb,						
J. W. Savage,						
Manuel Vearia,						
R. O. Kelley,						
B. R. Kelley,						
H. N. Smith,						
G. H. Hurlburt, Jr.,						
A. J. Emery,						
L. P. Hatch,						
Isaac Tyler,						
Manuel F. Carter,						
Geo. Crosby,						
Daniel Williams,						
Jonah Newcomb,						
Geo. W. Freeman,						
John R. Swartz,						
Frank Days, Jr.,						
S. F. Atwood,						
J. C. S. Harvender,						
A. A. Mayo,						
Jesse Ghen,						
Frank N. Atwood,						
Wm. H. Newcomb,						
Manuel Williams,						
Zephaniah Rich,						
Samuel Small,						
J. E. Weeks,						
J. G. Rand,						
Geo. Lewis,						
C. H. Emery,						
Reuben Ryder,						
E. Q. Weeks,						
Wm. Harlow,	Plymouth,	–	–	89	623	34
Cornelius Briggs,						
Maurice L. Chandler,						
Gilbert Rich,	Rockport,	–	–	1,575	173,815	–
Chester W. Gott,						
E. B. & E. Williams,	Raynham,	–	1,746	387,022	–	–
H. P. Macomber,						
Gustavus King,						

Gill and Sweep Nets — Continued.

Striped Bass.	Scup.	Squeteague.	Sea-bass.	Butter-fish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
129	-	1	-	3,692	-	272,576	-	2,954	-	103,118	67,382	2
-	-	-	-	319	-	1,670	-	-	-	-	39	3,999
-	-	-	-	-	-	1,208	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Gill and Sweep Nets — Concluded.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.
James Edson,	Scituate,	-	-	846	9,514	576
Geo. T. Edson,						
Wm. Ward,						
S. F. Cushing,	Sandwich,	-	-	27	223	93
C. H. Parker,						
E. W. Haines,						
Jesse D. Smith,						
G. H. Simmons,	Somerset,	-	-	200	-	-
Walter S. Jones,	Swampscott,	-	-	1,195	6,165	3,260
W. W. Freeman,	Truro,	-	-	-	1,269	-
J. A. Cobb,						
R. S. Lombard,						
B. F. Lombard,						
E. L. Doyle,						
J. T. Stevens,						
Chas. Collins,						
C. N. Grozier,						
H. F. Atwood,						
Jane K. Smith estate,	Tisbury,	-	-	5,425	-	-
C. B. Cleveland,	Vineyard Haven,	-	-	-	-	-
F. D. Grinnell,	Westport,	-	-	11,914	-	-
Wm. L. Soule,						
F. R. Gifford,	Wood's Holl,	-	-	-	-	-
Sylvanus Robbins,	Yarmouth,	-	-	10,000	-	-
Herbert Lovell,						
Totals, 163,		1	22,007	1,804,636	2,181,182	278,387

Gill and Sweep Nets — Concluded.

Striped Bass.	Scup.	Squeteague.	Sea-bass.	Butter-fish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
-	-	-	-	1,099	-	2,212	-	-	-	-	42	835
-	-	-	-	7	-	1,162	-	-	-	-	24	-
2	600	-	-	-	-	-	-	-	-	-	-	-
-	4	-	-	2,834	-	3,830	1	3	-	52	1,395	17,617
-	-	-	-	-	7	9,130	-	1,351	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	500
-	-	300	-	-	-	-	-	-	-	-	-	800
-	-	-	-	-	-	-	-	-	-	-	-	22,350
-	-	12	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	913	-	7	-	-	-	-
214	1,290	2,123	138	11,701	734	353,769	3	23,549	823	106,570	68,882	9,013,110

Pounds and Weirs.

1895.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.
F. D. Atwood, James Eldredge, T. Ellis & Son,	Brewster,	-	28	13,920	121,800	11,000	13
T. L. Mayo, W. B. Crosby,	Barnstable,	-	155	26,221	17,800	2,875	-
Alexander Sargent,	Bay View,	-	-	2,075	263,375	25	2
Daniel Vincent, R. Flanders & Co., W. F. Flanders, Frank P. Tilton,	Chilmark,	-	27	4,468	2,744	-	3
B. L. Jones, W. R. Bloomer, Reed, Loveland & Co., S. W. Gould, G. W. Crowell,	Chatham,	1	5,977	198,214	461,664	129,405	-
Church & Kenney,	Cuttyhunk,	-	24	2,173	-	226	-
Eilert Wefer, Z. H. Baker, A. P. Howes, A. T. Chase,	Dennis,	-	308	71,059	31,416	32,094	57
J. F. Crapo, W. S. Matthews, Geo. Priaulx, W. T. Dunn, E. H. Smith, H. P. Dunn, Nicholas Priaulx, James P. Swenson, C. F. Manchester & Co., E. D. Howland, Waite & Smith, B. F. Smith & Co., G. A. Snell & Co., Tallman & Gifford,	Dartmouth,	-	295	253,969	3,316	474,372	1,321
A. M. Knowles & Co., A. K. Higgins, W. H. Nickerson, Peter Higgins,	Eastham,	-	591	13,285	206,788	-	-
Isaiah Spindell, P. N. Stewart, C. B. Coombs,	Falmouth,	-	36	20,206	22,535	32,614	147

Pounds and Weirs.

1895.

Scup.	Squeteague.	King-fish.	Sea-bass.	Butter-fish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
-	-	-	-	10,460	11	234,861	-	1,347	189	100	5,600	17
202	28	40	-	3,096	8	13,127	-	77	312	437	43,095	957
20	-	-	2	18,110	-	32,425	-	-	32	1,485	39,720	18,600
28,168	10,425	23	1,989	2,002	1,645	9,170	1	31	99	3,455	8,771	3,018
89	33	2	42	1,431	4	17,132	3	2	377,246	26,476	221,180	14,201
221,900	1,262	-	1,010	27,442	-	182	-	1	53	188	-	5
11,534	229	18	-	2,036	239	6,221	46	67	173	2,282	128,511	733
352,524	35,975	262	73	98,286	110	8,637	3	17,130	16,776	72,760	158,717	56,734
-	-	-	-	-	3	3,035	-	3,019	271	414	24,952	-
49,515	1,771	29	333	2,525	111	81	3	163	1,056	1,560	82,310	-

Pounds and Weirs — Continued.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.
B. Luce, James Look, N. O. Poole & Co.,	Gay Head,	–	283	18,730	24,002	6,314	3
H. W. Daggett, P. B Davis, H. J. Allen, John Manley, A. B Veeder & Co., Isaiah Spindell,	Gosnold,	–	314	141,575	–	3,410	1
G. W. Douglass, C. W. Tibbetts, John Swinson, Alonzo Tarr, H. W. Nelson, C. E. Nason, Daniel Douglass, Joseph Douglass,	Gloucester,	2	1,627	3,222	1,084,230	8,304	22
D. F. Weeks & Co.,	Harwich,	–	110	2,296	72,800	2,200	–
E. W. Heath, James Brothers,	Manchester,	–	–	21,570	7,157,995	7,940	–
H. W. Brown, F. A. Tarr,	Magnolia,	–	104	4,620	83,050	–	–
R. T. Millet,	Marblehead,	–	–	–	32,400	13,817	–
T. L. Mayo,	Nahant,	–	3,407	20,125	904,145	120,080	51
T. K. Paine, Perez Bangs, H. J. Lewis, J. A. Lewis, J. W. Lewis, R. E. Cornwell, Neadon Rogers, J. S. Smith,	Provincetown,	–	584	150,025	3,519,204	30,121	5
Avard L. Smith,	Revere,	–	–	–	700,000	137,700	–
Robert Perry, Isaiah Spindell,	Sandwich,	–	–	–	–	–	–
E. R. Ellis, Geo. A. Phinney, O. F. Gibbs,	Sagamore,	–	79	870	31,985	6,823	–
F. W. Luther,	Somerset,	–	–	–	–	–	–
C. B. Jones,	Swampscott,	–	–	–	292,900	–	–
H. N. Luce,	Tisbury,	–	308	21,417	12,570	3,476	778

Pounds and Weirs — Continued.

Scup.	Squeteague.	King-fish.	Sea-bass.	Butter-fish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
42,184	11,825	11	1,427	24,948	121	9,462	-	86	63	1,491	8,205	1,554,000
609,528	64,862	326	35,881	133,100	1,103	5,688	-	186	5,124	158,041	116,900	363,070
8,736	-	-	8	5,261	-	16,901	-	81	212	1,238	19,086	422,283
23,921	1,157	-	14	4,565	24	1,151	-	178	141	970	48,300	7
-	-	-	-	865	-	3,449	-	-	11	-	-	-
-	-	-	-	2,878	-	15,491	-	18	-	-	1,100	-
-	-	-	-	1,853	-	8,240	-	-	-	-	-	-
179	-	-	40	8,320	5	16,398	-	25	501	1,273	7,530	-
380	3	5	15	10,027	12	36,443	-	171	206	19,320	594,949	159,606
230	-	-	-	572	-	9,663	-	-	-	-	-	170
-	-	-	-	281	-	6,714	-	-	18,100	-	488,500	300,000
266	1	-	-	24,758	3	19,212	-	16	9,044	745	257,016	1,167,204
-	-	-	-	-	-	-	-	-	-	-	-	85,810
-	-	-	-	400	-	2,650	-	-	-	-	-	3,703
38,155	14,313	555	874	5,501	2,132	15,590	1	664	890	6,081	20,367	5,180

Pounds and Weirs — Concluded.

PROPRIETOR.	TOWN.	Salmon.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass
W. L. Pease & Co., E. A. Davis, Edward Cottle, O. S. Daggett, H. B Davis & Co., Jason Luce & Co., M. H. Mayhew & Co.,	Tisbury,	-	308	21,417	12,570	3,476	778
W. F. Baker, David Blatchford, D. R. Rich, S. Atwood, R. A. Rich, P. L. Paine, Atkin Hughes,	Truro,	-	378	12,616	7,053,521	20,627	1
J. R. Walker, W. D. Cleveland, Norton & Peakes,	Vineyard Haven,	-	10	6,652	1,421	636	37
W P. Doane, Theodore Brown,	Wellfleet,	-	178	11,650	83,200	6,200	9
Roland Kelley,	Yarmouth,	-	-	-	-	-	17
Totals, 102,		3	14,823	1,000,958	22,182,517	1,052,983	2,465
Ten nets not tabulated,		-	3	301,486	463,600	-	50
Seven pounds not tabulated,		-	177	22,631	1,018,997	17,491	136
Totals,		-	180	224,117	1,482,597	17,491	186

Nineteen lobster returns not tabulated,

Pounds and Weirs — Concluded.

Scup.	Squeteague.	King-fish.	Sea-bass.	Butter-fish.	Bonito.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
38,155	14,313	555	874	5,501	2,132	15,590	1	664	890	6,081	20,367	5,180
13,503	387	2	-	80,495	121	286,986	-	2,033	2,834	52,511	711,335	53,854
63,663	3,056	11	549	1,463	1,674	430	1	84	347	6,106	20,400	1
-	-	-	-	15	5	7,016	-	645	527	-	-	-
-	-	-	-	-	-	632	-	-	1,060	-	-	-
1,464,697	145,331	1,284	42,657	470,690	7,328	786,987	58	26,024	435,267	356,933	3,006,544	4,209,153
-	1	-	-	286	-	1,407	1	2,744	-	140	800	781
37,200	6,870	73	7	27,185	99	39,933	-	698	2,922	17,041	129,448	7,105
27,200	6,871	73	7	27,471	99	41,340	1	3,442	2,922	17,181	130,248	7,886

Pots, . . 1,205 Large lobsters, . . 60,119 Eggs, . . 1,335

Comparison of Returns for the Years 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893 1894 and 1895.

Year.	Fisheries. Kind.	No.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish
1882,	Pounds and weirs, . .	85	27,769	1,420,919	1,201,449	8,102	4,219	1,991,480	67,266	3,289,512	310	133,805	40,512	114,843	4,016	- -
1883,	" " . .	87	5,994	1,250,263	339,116	4,048,022	2,876	1,848,583	92,671	4,756,490	246	60,182	35,481	184,387	5,361	- -
1884,	" " . .	93	5,392	715,886	2,806,203	308,381	6,950	1,641,129	74,826	1,440,486	99	109,694	23,929	288,930	33,980	- -
1885,	" " . .	80	18,088	1,066,148	6,564,619	6,255	1,365	1,240,630	17,746	2,643,190	24	32,575	47,231	317,082	7,741	128,698
1886,	" " . .	58	15,874	1,012,802	1,364,684	48,910	2,412	1,966,243	3,226	1,290,466	20	17,315	47,490	261,595	11,570	572,334
1887,	" " . .	62	14,044	1,453,820	1,713,846	127,951	1,233	2,153,504	15,742	1,069,609	109	44,204	89,075	304,492	7,615	812,810
1888,	" " . .	83	50,057	1,054,607	6,665,698	1,202,777	2,455	1,448,451	127,602	2,877,768	115	38,376	63,214	358,917	10,805	2,716,892
1889,	" " . .	103	25,591	1,417,950	17,000,308	1,203,669	4,924	1,331,673	36,043	825,152	524	17,287	69,719	289,993	20,163	1,859,924
1890,	" " . .	88	22,961	1,198,561	4,432,690	2,911,970	5,302	354,423	43,988	1,297,264	1,242	60,633	25,637	210,476	9,180	958,872
1891,	" " . .	87	26,587	2,039,107	10,643,504	1,976,856	1,413	3,160,446	98,749	3,045,814	323	28,355	33,476	389,416	17,511	569,794
1892,	" " . .	83	14,658	1,031,160	15,739,505	124,917	1,410	2,421,985	70,085	4,706,233	47	16,296	45,881	346,772	8,069	1,588,890
1893,	" " . .	99	13,440	816,841	16,895,378	1,615,025	561	2,216,406	304,896	2,283,685	2,011	15,842	34,894	284,122	2,643,123	1,419,042
1894,	" " . .	105	6,754	1,378,703	15,361,317	1,152,174	1,849	394,224	309,875	4,127,338	269	14,799	28,715	195,643	2,086,309	1,242,595
1895,	" " . .	102	14,823	1,000,958	22,182,517	1,052,983	2,465	1,464,697	145,331	786,987	58	26,024	435,267	356,933	3,006,544	4,209,153
1888,	Traps, fykes and irregular returns, ...	8	-	5,150	252,685	7,750	-	-	-	288,466	-	-	-	3,123	3,544	-
1889,	Traps, fykes and irregular returns, ...	15	2,994	89,516	1,212,942	184,239	64	86	54	64,938	13	2,690	339	2,246	2,060	76,073
1882,	Gill nets and sea seines, .	133	1,738	424,630	310,611	633	1,427	99,046	4,205	587,087	87	191,668	6,245	33,487	3,033	- -
1883,	" " .	112	26	41,996	79,689	937,627	838	6,254	1,102	392,535	4	131,815	966	12,681	1,755	- -
1884,	" " .	85	6,544	67,312	541,689	1,526	632	7,855	3,254	216,829	6	136,068	1,578	19,031	2,426	- -
1885,	" " .	78	444	117,674	82,151	9,546	601	26,854	1,656	183,156	1	101,371	233	30,948	967	5,454
1886,	" " .	49	22	397,727	151,782	311	1,524	13,019	42	75,463	9	32,343	1,039	14,592	21,670	17,326
1887,	" " .	35	801	347,109	779,211	57	601	676	2,586	177,401	3	22,018	457	14,206	30,416	4,708
1888,	" " .	142	92,010	468,934	734,374	94,310	1,349	7,704	2,027	633,627	2,172	199,546	1,314	30,738	18,701	52,049
1889,	" " .	208	4,533	401,445	357,054	202,094	1,421	4,062	4,545	271,017	157	55,718	2,576	35,745	199,360	80,008
1890,	" " .	183	1,448	174,213	686,948	239,474	1,980	2,289	1,141	209,863	1,488	181,401	754	29,950	81,979	94,448
1891,	" " .	94	8,308	161,363	315,641	43,624	229	489	535	163,750	89	55,254	80	26,824	10,336	24,324
1892,	" " .	91	214	444,024	967,567	1,827	422	1,938	260	688,119	1	48,100	59	75,614	14,220	23,711
1893,	" " .	121	910	291,481	1,120,514	52,495	1	141	1,391	301,368	71	56,381	75	66,377	382	106,561
1894,	" " .	183	409	184,393	956,130	496,704	358	13	1,450	766,573	1,182	85,342	203	61,238	7,876	18,406
1895,	" " .	144	18,109	111,806	957,582	207,987	209	690	2,123	353,769	3	23,549	823	106,570	68,882	584,402

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Comparison of Returns for the Years 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894 and 1895—Concluded.

Year.	Fisheries. Kind.	No.	Shad.	Alewives.	Sea Herring.	Menhaden.	Striped Bass.	Scup.	Squeteague.	Mackerel.	Spanish Mackerel.	Bluefish.	Tautog.	Flounders and Flatfish.	Squid.	Other Edible or Bait Fish.
1888,	Other fresh-water seines,	19	6	1,026,042	–	–	4	–	–	–	–	–	–	1,053	6,068	–
1889,	" " "	8	–	513,001	–	–	–	–	–	–	–	–	–	–	–	–
1890,	" " "	6	–	738,310	–	–	–	–	–	–	–	–	–	–	–	–
1891,	" " "	9	–	1,251,994	–	–	–	–	–	–	–	–	–	–	–	–
1892,	" " "	5	–	794,936	–	–	–	–	–	–	–	–	–	–	–	–
1893,	" " "	5	–	545,613	–	–	–	–	–	–	–	–	–	–	–	–
1894,	" " "	9	7	1,003,947	–	–	–	–	–	–	–	–	–	–	–	–
1895,	" " "	5	–	491,084	–	–	–	–	–	–	–	–	–	–	–	–
1882,	Total returns,	261	44,734	4,446,280	1,512,060	8,735	5,929	2,090,526	71,471	3,876,599	397	325,473	46,757	148,330	7,049	–
1883,	" "	239	15,160	4,178,682	418,605	4,985,649	5,080	1,854,837	93,773	5,149,025	250	191,997	36,807	197,068	7,116	–
1884,	" "	205	17,699	2,353,781	3,347,892	309,907	7,582	1,648,984	78,080	1,657,315	105	245,762	30,507	307,971	36,406	–
1885,	" "	184	25,347	3,747,750	6,546,770	15,801	1,881	1,267,484	19,402	2,826,346	25	133,946	47,464	348,030	8,708	134,152
1886,	" "	124	19,466	3,183,741	1,520,466	49,221	3,936	1,979,262	3,268	1,395,850	29	55,031	48,678	276,187	58,872	590,659
1887,	" "	112	19,292	3,108,642	2,345,632	97,510	1,833	2,144,973	18,357	1,057,565	112	66,422	89,065	320,220	50,071	818,639
1888,	" "	264	149,200	3,767,929	7,669,493	1,556,036	3,275	1,672,610	129,850	3,801,393	2,489	240,874	70,523	432,710	40,634	2,875,420
1889,	" "	352	40,461	3,617,929	14,919,159	4,326,352	6,414	1,335,821	40,642	1,161,107	694	75,695	72,634	327,984	221,583	2,015,993
1890,	" "	291	29,303	3,638,920	5,482,120	6,931,804	7,282	356,712	45,130	1,507,617	2,730	242,034	26,391	240,920	102,789	1,112,320
1891,	" "	202	37,346	4,954,822	11,108,745	4,500,052	1,642	3,160,935	99,284	3,209,564	412	83,609	33,556	416,240	83,977	594,118
1892,	" "	193	16,928	3,179,923	17,241,072	126,744	2,273	2,423,923	70,345	5,394,352	48	64,396	45,940	423,541	38,194	1,620,997
1893,	" "	235	18,474	4,155,576	19,760,292	4,277,520	562	2,216,547	306,287	2,585,086	2,082	72,223	34,969	350,749	2,643,505	1,598,571
1894,	" "	309	12,084	5,693,300	16,321,847	1,652,078	2,207	394,237	302,325	4,893,911	1,451	100,141	28,918	256,881	2,094,185	8,914,569
1895,	" "	265	36,830	2,805,594	24,363,699	1,331,370	2,679	1,465,987	147,454	1,140,756	61	49,573	436,090	463,503	3,075,426	13,756,795
	Increase of 1895 over 1894,	–	7,648	1,393,969	3,198,878	–	–	–	–	1,169,031	–	–	16,957	40,059	–	–
	Decrease of 1895 below 1894,	21	–	–	–	294,106	5,701	381,500	58,678	–	80	111,816	–	–	27,698	–
	Increase of 1896 over 1895,	–	–	–	–	33,420	2,005	711,778	–	–	4	–	1,214	–	50,164	456,507
	Decrease of 1896 below 1895,	60	5,881	564,009	5,026,304	–	–	–	16,134	1,430,496	–	78,915	–	71,843	–	–
	Increase of 1897 over 1896,	–	–	–	825,166	48,289	–	165,711	15,089	–	83	11,391	40,387	44,033	–	227,980
	Decrease of 1897 below 1896,	12	174	75,099	–	–	2,103	–	–	338,285	–	–	–	–	8,801	–

Increase of 1888 over 1887, .	152	129,908	642,287	5,323,861	1,438,526	1,442	–	111,493	2,743,828	2,377	174,452	–	112,490	–	2,556,781
Decrease of 1888 below 1887,	–	–	–	–	–	–	472,363	–	–	–	–	18,542	–	9,437	–
Increase of 1889 over 1888,	88	–	–	12,249,666	2,790,316	3,139	–	–	–	–	–	2,111	–	180,949	–
Decrease of 1889 below 1888,	–	108,739	150,000	–	–	–	336,789	89,208	2,640,286	1,795	165,179	–	104,726	–	859,427
Increase of 1890 over 1889,	–	–	–	–	2,605,452	868	–	4,488	346,510	2,036	166,339	–	–	–	–
Decrease of 1890 below 1889,	61	11,168	579,009	14,437,039	–	–	979,109	–	–	–	–	46,243	87,064	118,794	903,673
Increase of 1891 over 1890,	–	–	1,915,902	5,626,625	–	–	2,804,223	53,754	1,701,947	–	–	7,165	175,320	–	–
Decrease of 1891 below 1890,	89	2,492	–	–	2,431,752	5,640	–	–	–	2,318	158,425	–	–	18,812	518,202
Increase of 1892 over 1891,	–	–	–	6,132,327	–	631	–	–	2,184,788	–	–	12,384	7,301	–	1,026,879
Decrease of 1892 below 1891,	9	20,418	1,774,899	–	4,373,252	–	737,012	28,939	–	364	19,212	–	–	45,783	–
Increase of 1893 over 1892,	42	1,546	975,653	2,519,220	4,150,776	–	–	235,942	–	2,034	7,827	–	–	297,805	–
Decrease of 1893 below 1892,	–	–	–	–	–	1,711	207,376	–	2,809,266	–	–	10,971	72,792	–	22,426
Increase of 1894 over 1893,	74	–	1,537,724	–	–	1,645	–	–	2,308,825	–	27,918	–	–	–	7,115,998
Decrease of 1894 below 1893,	–	5,790	–	3,438,445	2,625,442	–	1,822,310	3,962	–	631	–	6,051	93,868	549,320	–
Increase of 1895 over 1894,	–	24,146	–	8,041,852	–	472	1,071,750	–	–	–	–	407,172	206,622	981,241	4,842,226
Decrease of 1895 below 1894,	44	–	2,887,706	–	320,708	–	–	154,871	3,753,155	1,390	50,568	–	–	–	–

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